

12th INTERNATIONAL CONFERENCE ON SCIENCE AND INNOVATIVE ENGINEERING 2022

ORGANIZED BY

ORGANIZATION OF SCIENCE & INNOVATIVE ENGINEERING AND TECHNOLOGY, CHENNAI

IN ASSOCIATION WITH



JAWAHAR ENGINEERING COLLEGE, CHENNAI



Certificate of Presentation

Dr.R.Arravind

This is to certify that Dr./Mr./Ms. from

Paavai Engineering College, Namakkal

..... has presented a
paper titled **EXPERIMENTAL STUDY OF UAV FOR PRECISE OBSTACLE TRACKING AND DETECTION**

.....
in the “12th International Conference on Science and Innovative Engineering”
held on 5th June 2022.

Dr. A. Krishnamoorthy
Technical Lead, OSIET

P Arun Srinivas
Advisor-ICSIE

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Certificate of Presentation

This is to certify that Dr./Mr./Ms. **Mr.K.GOKULNATH** from
Paavai Engineering College, Namakkal has presented a
paper titled **EXPERIMENTAL STUDY AND MEASURING OF FUEL AIR MIXTURE BURNING**
VELOCITY USING STATIONARY METHOD
in the "12th International Conference on Science and Innovative Engineering"
held on 5th June 2022.


Dr. A. Krishnamoorthy
Technical Lead, OSIET


P Arun Srinivas
Advisor-ICSIE



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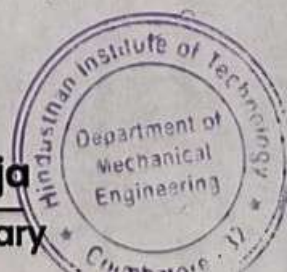
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This is to certify that Mr/Ms/Dr D. RATKUMAR TAEROJ
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in the
International Conference on Intelligence in Industrial Automation-ICIIA'22
held on 15th June 2022, organized by Department of Mechanical and
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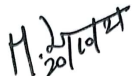
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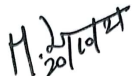
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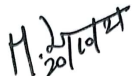
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EXPERIMENTAL INVESTIGATION ON GEOPOLYMER CONCRETE

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Abstract-

The need to reduce the global anthropogenic carbon dioxide has encouraged more to search for sustainable building materials. Cement, the second most consumed product in the world, contributes nearly 7% of the global CO₂ emission. Geo polymer concrete (GPC) is manufactured using industrial waste like fly ash, GGBS and silica fumes which is considered as a more eco-friendly alternative to ordinary Portland cement (OPC) based concrete. Ground granulated blast furnace slag (GGBS) is hydraulic binder, which has been known and used for 150 years. It improves the quality & durability of concrete and its production is virtually CO₂ free. Concrete made with GGBS will have a high solar reflectance and it is not the infrared radiation so, it will not be trapped by greenhouse effect of earth's atmosphere. Silica fume has been used all over the world for many years in the area where high strength and durable concrete were required. Silica fume improves the characteristics of both fresh & hard concrete. Silica fume reduces bleeding and enhances the cement paste bond to the aggregates. Our project is to replace cement in Geo polymer Concrete with varying proportions of Silica Fume, GGBS and Fly Ash to identify what is the optimum level to use silica fume in the place of Fly ash and GGBS.

Keywords: Fly ash, GGBS, Silica fumes.

1.INTRODUCTION

Concrete, is an essential building material is widely used in the construction of infrastructures such as buildings, bridges, highways, dams, and many other facilities. One of the ingredients usually used as a binder in the manufacture of concrete is the Ordinary Portland Cement (OPC) to enhance the strength properties and serviceability requirements by using supplementary materials in concrete. Such supplementary materials are blast furnace slag, fly

ash, silica fume, rice husk, crushed stone dust etc. Every 1 ton of concrete leads to CO₂ emission which vary between 0.05 to 0.13 tons. About 95% of all CO₂ emissions from a cubic yard of concrete are from cement manufacturing. It is important to reduce CO₂ emissions through the greater use of substitute to ordinary Portland cement (OPC) such as fly ash, clay and others geo-based material. Geopolymer concretes (GPC) are a type of Inorganic polymer composites, to form substantial element of an environmentally sustainable construction and building products industry by replacing supplementing the conventional concretes. The source materials may be industry waste product such as fly ash, slag, red mud, rice-husk ash and silica fume may be used as feed stock for the synthesis of geopolymer. The alkaline liquids are concentrated aqueous alkali hydroxide or silicate solution, with soluble alkali metals, usually Sodium- (Na) or Potassium- (K) based. High alkaline liquids are used to induce the silicon and aluminium atoms in the source materials to dissolve and form the Geo polymeric binder. There are many different views as to which are the main parameters that affect the compressive strength and other mechanical properties of geopolymer concrete. The significant factors affecting the compressive strength are the type of alkaline activator. The curing temperature and the curing time. The important parameters for satisfactory polymerization are the relative amounts of Si, Al, K, Na, and molar ratio of Si to Al present in solution, the type of alkaline activator, the water content, and the curing temperature. This study also examines the mechanical properties of rice husk ash-based geo polymer concrete using coarse aggregate materials by performing compressive strength tests and splitting tensile strength tests and analyzing their uncovered relationship.

Development of light weight and Light Transmitting Concrete using Waste Scrap Materials

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Abstract-Concrete is a composite material composed of fine and coarse aggregate bonded together with fluid cement that hardens over time. Now days mostly the construction researchers have been trying to improve the quality and reduced dead weight of the structure and enhance its performance. In this current situation there is a demand in natural sand so engineers are using manufactured sand. The aim of our project is to reduce the dead weight of the structure as well increase the strength of the concrete. So we developed light weight aggregate and sand by using waste plastic and glass materials. We developed a concrete by using crushed glass bottles and melted plastic which is considered as light weight concrete. Glass is an ideal material for recycling use of recycled glass helps in energy saving. This indicate that glass can be effectively used as a fine aggregate replacement without substantial change in strength and also we used aluminum metal powder for reducing the member weight by introduced air in concrete. For the innovative and aesthetic purpose we made the concrete to glow using plastic optical fiber which acts as a transmitting agent which also called as translucent concrete in which the optical fiber is inserted in parallel way. We used epoxy to harden the optical fiber (0.75mm) and M20 grade concrete.

Keywords — *fine and coarse aggregate, bracing, plastic optical fiber*

Introduction

Now days power generation and saving the current is major worldwide problems. the power generation department meet the lot of problems everyday due to some natural resources and industrial. power consumption is more day by day increased due to automobile industry, machine manufacturing of industry, software field and increased population , same time we loss the natural sourses.in this project report discuss about the power generation from the concrete panel in structures. light transmitting concrete developed.

This paper contributes to the determination of new alternatives for sustainable construction around the world. LT.C. can help to reduce power consumption in buildings by allowing natural light to shine into the building interior through external walls.

Recently nowadays light transmitting concrete is developed by the light weight and same times developed the strength of the concrete. In India and worldwide, variety of

waste is generated in different forms, shape and texture. These industrial wastes mostly possess threat to the environment and the society living nearby. Various researches has been done on this waste material to either degrade or to utilize it in some or the other way.

the main aim of the project is to develop the strength of the concrete and light transmission of concrete by reinforcing optical fibers. In this report conclusion conventional concrete and translucent concrete strength is more or less same. We can develop modern architecture structures using reinforcing optical fibers. Light weight concrete is developed by light weight aggregate. The light weight aggregate is made from the recycled plastic (high density polyethylene), the compressive strength , split tensile strength and flexural strength is obtained from the (0% to 40%) recycling of plastic aggregate .

Nowadays waste materials mostly develop the light weight materials in construction field example for plastic aggregate made from burning of plastic materials, glass sand made from the crushing of waste glass materials. The partially replacement of glass powder by cement. The main aim of the project is to developed the green environment and the concept of green building. The focus of this investigation to evaluate the possibility of using waste glass powders in concrete .using the partially replacement of waste glass powder in cement, we can reduced the density of concrete & emission of carbon-di oxide.

The compressive strength, tensile, flexural strength and light weight concrete is developed by partially replacement of platic waste aggregate. various percentage of plastic aggregate used in concrete such as 1% 2.5% ,5% 10% .the optimum compressive strength, tensile strength and flexural obtained at 2.5% of partially replacement of plastic aggregate and workability also increased by plastic aggregate. we can reduce the land pollution by recycling of plastic aggregate.

The partially replacement of glass powder by river sand. The main aim of the project is to developed the compressive strength, tensile strength , flexural strength and water absorption in various grade of concrete and replacing in various percentage of glass powder. The compressive strength, split tensile strength and flexural strength gradually increase upto 30% addition of waste glass powder and for 40% and 50% replacements the strength values are comparable with that of the control specimens. Highly reduced chlorid contant in concrete by waste glass powder. The chloride penetration test is done by RCPT. In this paper mainly focused develop light transmitting concrete developed by light weight plastic aggregate, glass sand and optical fibres glass.

Aim of the Product

ANALYTICAL AND EXPERIMENTAL STUDY ON STRENGTHENING OF RC BEAM USING KEVLAR FIBRE LAMINATES

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² Postgraduate student, Paavai Engineering College (Autonomous), Namakkal

ABSTRACT

Sustainability necessitates the protection of infrastructure from any kind of deterioration over the life cycle of the asset. Deterioration in the capacity of reinforced concrete (RC) infrastructure may result from localised damage sustained during extreme loading scenarios, such as earthquakes, hurricanes or tsunamis. In addition, factors such as the corrosion of rebars or ageing may also deteriorate or degrade the capacity of an RC column, thereby necessitating immediate strengthening to either extend or ensure its design life is not limited. Improving the properties of reinforced concrete beams involves strengthening of existing members to carry maximum loads or to satisfy certain serviceability requirements. In structural engineering the introduction of advanced composite materials, particularly adhesive bonded Kevlar fibre as externally bonded retrofit materials, has offered many benefits (i.e., corrosion free, excellent strength to weight ratio, ease for site handling, flexibility to conform to any shape). The use of Kevlar fibre laminates in the structural repair and retrofitting of reinforced concrete members becomes a great deal of research work nowadays. This research work deals with the performance of reinforced concrete beams laminated with various thickness of Kevlar fabric layers by an epoxy bonding agent under a two-point concentrated loading system. Initially, the analytical investigation of the beams is carried out using the Finite element analysis software ABAQUS 2018. The analytical results are validated with the experimental outcomes. From the results, the ultimate load, mid-span deflection, stress, as well as the effect of Kevlar fibre laminates in improving the strength of the reinforced concrete beam will be investigated.

Keywords: Kevlar fibre, Fibre laminates, Deterioration, Retrofitting, Epoxy resins

Experimental Study on Behaviour of Steel Fiber Reinforced Concrete

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Department of civil Engineering
Paavai Engineering College, Namakkal

Abstract- This paper deals with experimental study on behavior of steel fiber reinforced concrete for M25 grade having mix proportion of 1:1:2 with 0.44 water cement ratio to study the Compressive strength, Split tensile strength, Flexural strength of steel fiber reinforced concrete (SFRC) containing fibers of 0.5% volume fraction of hook end Steel fibers of 50 aspect ratio were used. A result data obtained has been analyzed and relationship between Compressive strength, Split tensile strength, Flexural strength vs days represented graphically.

Keywords: Steel fiber reinforced concrete, Compressive strength, Flexural strength, Split tensile strength

I. INTRODUCTION:

Fiber-reinforced concrete can be defined as composite material consisting of mixture of cement, mortar or concrete and discontinuous, discrete, uniformly dispersed suitable fibers, continuous meshes, woven fabrics and long wires or rods are not considered to the discrete fibers.

Definition of SFRC

Steel fibre reinforced concrete (SFRC) is a composite material whose components include the traditional constituents of Portland cement concrete (hydraulic cement, fine and coarse aggregates, admixtures ...) and a dispersion of randomly oriented short discrete steel fibres. The development of steel fibre reinforced concretes began in the early 1960s (Li, 2002). Since then, the use of SFRC has gathered great interest, with research demonstrating the potential benefits that may lie in the use of the material in both structural and non-structural applications

Objective

To investigate the properties of Steel Fibre Reinforced concrete experimentally with the following test results

- Compressive strength
- Split tensile strength
- Flexural strength

II. LITERATURE REVIEW:

Vengatachalapathy.V, Ilangoan.R (2010), This experimental study deals with the behavior and ultimate strength of steel fiber reinforced concrete (SFRC) deep beams with and without openings in web subjected to two-point loading, nine concrete deep beams of dimensions 750mm×350mm×75mm thickness were tested to destruction by applying gradually increased load. Simply supported conditions were maintained for all the concrete deep beams. The percentage of steel fiber was varied from 0 to 1.0. The influence of fiber content in the concrete deep beams has been studied by measuring the deflection of the deep beams and by observing the crack patterns.

The investigation also includes the study of steel fiber reinforced concrete deep beams with web reinforcement with and without openings. The ultimate loads obtained by applying the modified Kong and Sharp's formula of deep beams are compared with the experimental values. The above study indicates that the location of openings and the amount of web reinforcement, either in the form of discrete fibers or as continuous reinforcement are the principal parameters that affect the behavior and strength of deep beams.

Milind V. Mohod, (2012), In this paper effect of fibers on the strength of concrete for M 30 grade have been studied by varying the percentage of fibers in concrete. Fiber content was varied by 0.25%, 0.50%, 0.75%, 1%, 1.5% and 2% by volume of cement. Cubes of size 150mm X 150mm X 150mm to check the compressive strength and beams of size 500mm X 100mm X 100mm for checking flexural strength were casted. All the specimens were cured for the period of 3, 7 and 28 days before crushing. The results of fiber reinforced concrete for 3 days, 7 days and 28 days curing with varied percentage of fiber were studied and it has been found that there is significant strength improvement in steel fiber reinforced concrete. The optimum fiber content while studying the compressive strength of cube is found to be 1% and 0.75% for flexural strength of the beam. Also, it has been observed that with the increase in fiber content up to the optimum value increases the strength of concrete. Slump cone test was adopted to measure the workability of concrete. The Slump cone test results revealed that workability gets reduced with the increase in fiber content.

A.M. Shende, A.M. Pande, M. Gulfam Pathan, (2012), Critical investigation for M-40 grade of concrete having mix proportion 1:1.43:3.04 with water cement ratio 0.35 to study the compressive strength, flexural strength, Split tensile strength of steel fibre reinforced concrete (SFRC) containing fibers of 0%, 1%, 2% and 3% volume of fraction. Steel fibers of 50, 60 and 67 aspect ratio were used. A result data obtained has been analyzed and compared with a control specimen (0% fiber). A relationship between aspect ratio vs. Compressive strength, flexural strength, aspect ratio vs. Split tensile strength represented graphically. Result data clearly shows percentage increase in 28 days Compressive strength, Flexural strength and Split Tensile strength for M-40 Grade of Concrete.

Khadake S.N. Konapure C.G. (2012) This paper deals with Investigation for M-25 grade of concrete having mix proportion

FOAMED CONCRETE

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Abstract-

Foamed Concrete can be defined as a type of Cellular Lightweight Concrete (CLC); Foamed concrete doesn't contain any Coarse Aggregate(Gravel). The whole slurry contains only the Cement, Steel slag powder, Fly ash in different proportions and Foaming agent are adding in different proportions. The foam are used in the mortar can be of two types; Natural and protein based foamed. The natural foam liquid can be prepared by using the Sapindus (from small trees in the Lychee family, native to warm temperature to tropical regions of the world). The natural foam can be generated by the soap nuts using the foam generator. The slurry and the foam mixture can produce a variety of densities ranging from 400 to 1600 Kg/m³. Cubes are made in different proportions based on the materials in same densities with natural and protein based agents; then their compressive strengths, water absorption is compared with normal mix(without foam) and the results are noted

Keywords—Foamed concrete, sapindus, protein based agent, steel slag, fly ash

INTRODUCTION

The perpetual release of anthropogenic greenhouse gases has been causing climate changes over some years now and this fact has been established through research studies that there is global growth of carbon dioxide concentration in the atmosphere. Studies have shown that the production of Portland cement alone accounted for approximately 5% of the total global carbon dioxide emissions through various human activities. A further study shows that a ton of concrete produced carbon dioxide 0.05 to 0.13 tones approximately ninety-five percent of the total estimated carbon dioxide emissions derived from production of concrete. So in order to reduce these emissions and to reduce the usage of such materials some replacements are done. Foamed concrete consists of opc, fly ash, steel

slag and preformed foam. The focus of this project is to investigate on properties of foamed concrete by the partial replacement of cement by fly ash and steel slag in various proportions and identifying their strength and other properties. The significance of the project is to use the natural foam instead of artificial agents. The foam can be produced by Soap nut, a genus of shrubs and small trees in the Lychee family, native to warm temperature to tropical regions of the world.

1. MATERIALS USED**1.2.1 Cement****Table 1.1 Test Values of OPC 53 Grade**

S.NO	PROPERTY	VALUES
1.	Consistency of cement	32%
2.	Fineness of cement	10%
3.	Initial setting time	31 min
4.	Specific gravity	3.15

Class 'F' fly ash**Table 1.2 Test Values of Class F fly ash**

S.NO	PROPERTY	VALUES
1.	Consistency of flyash	42%
2.	Fineness of flyash	7%
3.	Initial setting time	50 min
4.	Specific gravity	2.66

Steel Slag**Table 1.3 Test Values of Steel slag**

S.NO	PROPERTY	VALUES
1.	Specific gravity	3.15
2.	Water absorption	1.32%
3.	Bulk density	2395 Kg/m ³

2. TRIAL MIXES**GENERAL**

This chapter presents the mix proportions and the variations made in the proportions. The change in the proportion has a strong effect on the density, it means the altering of the cement content, steel slag, fly ash, foam and w/c ratio determines the density of the foam mixture

MIX PROPORTION

In this project, the density is kept as a constant and then the other proportions are change mortar cube will be 1200 gms

MATERIALS	TRIAL MIX			
	M1	M2	M3	M4
Cement	30%	30%	-	45%
steel slag	20%	30%	45%	45%
fly ash	40%	30%	45%	-
foam & water	10%	10%	10%	10%

The above mixes are the trials made with different proportions. Among that MIX F4 was a failure one because there is no filler material in

EXPERIMENTAL STUDY ON STRENGTH PROPERTIES OF PERVIOUS RIGID PAVEMENT

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ABSTRACT— concrete production has greatly improved in recent decades. concrete, on the other hand, has a unique purpose. Water cannot flow through ordinary concrete, but it passes through this concrete. the main motivation for making this type of concrete is to use it on the pavement and in open drains, where rainwater can pass through and continue to raise low water levels. due to the decline in cement prices, cost savings were a major factor. in this experimental work made of slag powder was added to a mixture of asphalt, coarse aggregate, and water to form concrete. a small amount of slag powder can be used to improve strength. The use of strong concrete as a solution in the case of large water is desirable. The total strength of the finished concrete is determined by conducting a test of the ability of the material to withstand the strength of the slag powder that removes cement by various percentages of 0%, 10%, 20%, 30%, 40%, and 50%. the results obtained are discussed in the following chapters

Keywords: Fly ash, GGBS, Silica fumes.

I. INTRODUCTION

A. Pervious Concrete

The word "pervious" is used to describe an open, almost zero-slump area made of Portland cement, compact, with little or no compound, admixtures and water. In a simple way, concrete that drains substance. It's a great opportunity. Unlike heavy concrete, it has high strength, has high porosity and allows it to move freely. Concrete equipment. For this reason, it is useful in situations where water forms, ice or other sources are available. Other sources must be exhausted. Absence or very low porosity is found in the absence or very low content of FA. A good level of integration is in between. No-fines concrete is another name for flexible concrete, corrugated concrete or bare concrete. Cement, composite, water, and small or poor adhesives make up most of the composite. Good collections often fill the gaps between large aggregates with standard concrete.

Scope of the Project

- ✓ This concrete is a type of concrete with high porosity that helps groundwater to regenerate while reducing storm water flow.
- ✓ The scope of the work is to investigate Pervious concrete by using Steel slag as partial replacement of Cement.
- ✓ The results of research conducted in separate studies have been studied.

Objective of the Project

- ✓ To find the physical & chemical properties of various material.
- ✓ Investigate the concrete used in this study using various mixing scales.
- ✓ To find the optimum % of Pervious Concrete.
- ✓ To find the Permeability of Pervious concrete.

II. LITERATURE COLLECTION

Yongjie Xue et al (2006) Steel slag obtained by hot-sprinkling method is a very suitable aggregate with porous structure for preparing stone mastic asphalt mixtures after 3 years aging. As the restoration of basalt iron ore increases the level of optimal bitumen, all the volume performance of asphalt rock mixtures containing metal slag such as aggregates will meet the appropriate specification criteria. After two years of use, test methods show outstanding results, with a coefficient of 556 abrasion and friction and surface texture depth of 0.8mm. In summary, the efficient use of steel as a composite in the construction of the paved road will provide a modern and cost-effective solution for composite materials while also reducing the environmental hazards caused by solid debris. However, further research is needed on its recycling process and its widespread use in the future.

Hisham Qasrawi et al (2008) Metal slag is particularly beneficial for low-strength concrete in terms of compression strength and durability, i.e., lower concrete quality, increasing strength. Metal slag is applicable to standard concrete mixes that increase strength in all replacement measurements. When good content with 0.15mm removed, better results can be obtained. In this case, increasing the volume of slag instead of sand increases strength.

DYE-SENSITIZED BLACKBERRY SOLAR CELL (DSSC)

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Abstract - Generally, plants contain pigments like chlorophylls, carotenoids, flavonoids, betalains. The blackberry is an edible fruit produced by many species in the genus *Rubus* in the family *Rosaceae*. This fruit particularly contains anthocyanin pigment which can be used as the sensitizing pigments for photoelectrochemical cells. Blackberry is used to prepare the anthocyanin pigment. The fresh fruit is crushed into a liquid-type sample. Then the sample is treated with methanol. The presence of pigment can be analysed by UV and FTIR analysis. Anthocyanin pigment obtained according to the present invention is highly pure (>99.9% by HPLC). The electrolyte solutions are potassium iodide and Iodine. It works under the principle of photosynthesis and the photovoltaic method. The diode connected between the cells and battery to avoid the reverse current.

Keywords

Blackberry, Anthocyanin, Photoelectrochemical cell, Potassium iodide and iodine, UV and FTIR Analysis.

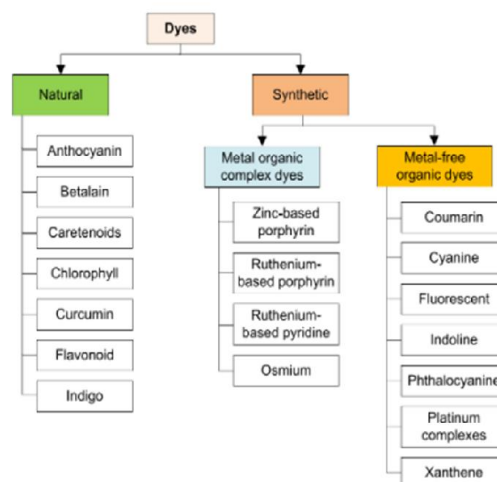
1. INTRODUCTION

The energy crisis is one of the major issues due to the rapid consumption of fossil fuel source¹. In recent days worldwide demand for energy keeps increasing due to population growth, technological development of Industries². However, oil production is gradually decreased which deems to give enormous challenge to growing needs. So nowadays we are mainly focusing on carbon-free energy source development which can able to meet societal needs. Renewable energy sources (RES) are one of the important energy supplies which are directly produced from sunlight like photovoltaic, photochemical, solar thermal, and other natural mechanisms. Most of the plants

contain chlorophylls, carotenoids, flavonoids, betalains. Blackberry contains a wide range of flavonoids particularly anthocyanin which is used as sensitizing pigment coating for a solar panel. Among various types of solar cells in today's generation, dye-sensitized solar cells had attraction due to huge potential alternative solar PV generation. But the major challenging task is to enhance the stability of DSSC for the long term. In this research, the dye was extracted from blackberry which contains an enormous amount of anthocyanin, it has more potential to absorb visible light in the spectrum. Also, this work is a completely green method as well eco-friendly technique.

II. CATEGORIES OF COMMON DYES IN DSSC

An important role in the absorption and conversion of visible light into electric energy is done by dyes. Dyes are classified into two types i.e., Natural dyes and Synthetic dyes¹. Anthocyanin, Betalain, Carotenoids, Chlorophylls, Curcumin, Flavonoids, Indigo are comes under natural dyes. Now the synthetic dyes are further classified into Metal-organic complex dyes and metal-free organic dyes.



INVESTIGATION AND ANALYSIS OF MOSQUITO REPELLENT EXTRACTION FROM NATURAL WASTES

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Abstract—This study reports the development of safe and efficient herbal mosquito repellent obtained from orange and lemon peel extract. Mosquito is a commonly distributed insect around the world. It carries various types of diseases like malaria, dengue fever [1], chikungunya and filarial [2]. We use sprays and lotions to protect ourselves from mosquito. The chemical compounds present in these sprays and lotions possess harmful effects against human skin and internal organs. Those compounds are pyrethrin and diethyl toluimide i.e. DEET. These chemicals could cause breathing difficulty, respiratory problems, dizziness, stomach irritation, nausea, vomiting, skin infections and so on [1]. Plants like orange, neem seed and lemon contain compound that can prevent from the mosquito. Natural compounds are safe to human when compared to synthetic compounds. Limonene is the main component that present in these citrus fruits peel. Limonene affects mosquito on contact effectively suffocating them by damaging their respiratory system. The repellent produced from these materials are biodegradable. So it is an eco-friendly method to avoid the mosquitoes. Plant origin repellents have been used for generations in traditional practice. The ingredients used for this extraction are generally waste materials. So it is an inexpensive method. The current study is mainly carried out for the development of mosquito repellent using orange and lemon peel extracts.

Keywords— Mosquito repellent, Orange peel, Lemon peel, Limonene.

I. INTRODUCTION

Natural waste has always been generated by humans. Orange and lemon are being consumed by humans in our daily lives as direct fruit and in the forms of juices, jam, flavour, etc. After consuming the inner flesh, the peels are generally thrown away or used as fertilizers for farms in the degraded form [5]. So the availability of the ingredient is huge compared to ingredients used for the synthetic processes. While a mosquito bites an animal, it injects saliva and ant-coagulants into the blood which could contain disease-causing viruses or other parasites. By killing mosquitoes, while people are infectious, isolating them from all mosquitoes or vaccinating the current population, we could interrupt this cycle. The mosquito repellents can be used in the forms of spray, lotions and mosquito nets. Also there are methods like mosquito swatter, mosquito coil and so on. The objective of this study is to extract mosquito repellent compound by applying the extracts of citrus peels

namely *Citrus sinensis* (sweet orange), *Citrus aurantifolia* (lime), *Ocimum sanctum* (tulsi) and *Azadirachta indica* (crushed neem seeds) [3]. This is an extensive search to find eco-friendly natural materials for the controlling of insect pests. The chemical compounds extracted from the plant recourses can be used as repellent, larvicidal, insect growth regulators and having deterrent activities observed by many researchers [7]. The products produced from plants have been used traditionally to repel or kill the mosquitoes in many parts of the world. The availability of plants on the earth surface has led to an increasing interest in the discovery of different extracts extracted from the traditional plants as potential resources of new mosquito repellent agent. Most of the plants compounds that they use in prevention of attack from mosquitoes like *Anopheles*, *Culex*, *Aedes* and vectors [8],[20]. Mosquitoes transmit diseases to more than 700 million people and 1 million deaths are reported yearly around the globe. These chemicals are categorized into repellents, feeding deterrents, toxins and growth regulators. These plant origin repellents do not pose any harm or toxicity to human and animals. When comparing natural and synthetic compounds, natural products are safer than the synthetic. The need for the investigation of phytochemicals is the natural repellent production for the mosquito control [9].

II. MATERIALS

A. Selection of material

Orange peel, crushed neem seeds, tulsi leaves and lemon peels are selected as a mosquito repellent agent. They are peeled from their fruits. The neem seeds are crushed in the purpose of making the extraction easy. They weighted before the extraction. Weighting helps us in calculating the amount of limonene oil extracted from certain amount of peel [6]. This data could be useful in making the extraction process efficient. Advantages of these natural finishes are non-toxic, biodegradable and cost effective.

B. Apparatus and Chemicals

The required equipments and chemicals are Bunsen burner, 110° C thermometer, measuring cylinder, distillation apparatus, 250 cm³ round bottomed flask, orange and lemon

INVESTIGATION OF SEAWEED-MIXED FRUIT JUICE BY USING EXTRACTION METHOD

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Abstract: Seaweed mixed fruit juice is a beverage made using seaweed kombu and fruit concentrate. Kombu made using seaweed - kombu and fruit concentrate. Kombu has all essential nutrients needs as per RDI. Banana has a natural sweetener in it which gives the juice the needed flavor and taste. People are becoming more conscious on health these days and seaweed mixed fruit juice is a boon for them especially for people with diabetes, gastric diseases and heart problems. Recently diffusion extraction technique has been explored and have been exploited commercially to a limited extent. Diffusion extraction is capable of removing 90 to 94 percent of soluble solids from properly prepared slices, but the resulting juice is diluted with extraction water and is high in extracted tannins. Concentration is necessary to obtain juice solids equivalency the resulting juice must be removed with tannins absorbents to provide acceptable flavor.

Keywords— Nutrient juice, Strawberry, Banana, Seaweed, Extraction, Tannins.

INTRODUCTION

Seaweed constitute one of the commercially important marine living renewable resource. They are the only source of the production of phyto-chemicals such as agar, agarose, carrageenan, and algin which are widely used in various industries as gelling, stabilizing and thickening agents. Seaweeds are good sources of food and medicine. Food products like jelly, jam, pickle can be prepared from seaweeds. Seaweeds plays a major role in marine eco system. They have the potential to be used as a source of long and short chain chemicals with medicinal and industrial uses. Marine algae are also be used as energy-collectors and potentially useful substances could be extracted. Seaweed extract is prepared from either hot or cold water extracts of either the dried or wet seaweed. Extraction refers to transference of compounds from solid or liquid into different solvent or phase Bananas have enormous health benefits for both animals and humans. Even from ancient times it is predominantly used to treat pathological and gastro intestinal diseases. When comes to health benefits it is highly used to treat diseases like diabetes, also ulcers, blood pressure and diarrhea. Incorporating banana with seaweed provides a tremendous health benefits, as flavonoids present in banana is used to reduce higher rates of cholesterol. Finally

consumption of banana shows anti-atherosclerotic activity. Resulting in reducing blood pressure in human. Bananas are extracted with pectinase ultra-SP-L for 50°C for 2 hours. The pure fruit juice is extracted during enzymatic fruit extraction method, which contains higher soluble solids fructose, nitrogen and potassium. Strawberry is one of the most popular fruit in worldwide, consumed both fresh and in processed products. In addition, strawberry colorings and flavorings are popular in food additives. Strawberry fruits are also rich in anthocyanin, flavonoids and phenolic compounds. Strawberry is a refreshing fresh fruit that is full of vitamin C and anti-oxidants and lot of invigorating flavor. Strawberries are sodium free, fat-free, and also a good source of manganese and potassium.

NUTRITIONAL CONTENT

Seaweed

Seaweed contains Iodine and Tyrosine, which supports thyroid function. It is a good source of vitamins and minerals. It contains a variety of protective antioxidants. It provides fiber and polysaccharides that can support the gut. It may helps to lose weight by delaying hunger and reducing weight. It may reduce the risk of heart disease. It helps to reduce the type II diabetes by improving the blood sugar control.

Banana and Strawberry

The banana and strawberry mix are known to help support weight loss, chronic diseases, nerve function and muscle concentration. It's got a load of antioxidants, which fights against oxidizing agent in our body. The powerful antioxidants in strawberries may work against free radicals that inhibit tumor growth and decrease inflammation in the body. Banana is a good source of vitamin C, vitaminB6, potassium.

DESIGN OF COMPOSTER AND ANALYSIS OF COMPOST MATERIALS

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Abstract -Waste management is one of the major problems faced by different cities all over the world. The problem is particularly due to urbanization, industrialization, poor urban planning, and lack of adequate resources which contribute to the enormous amount of waste propagation. According to the Central Pollution Control Board (CPCB) survey, the quantity of waste generated by 23 cities in the country in order of 30,058 tons/day. For instance, in INDIA the annual production of food waste has reached up to 45% (19000 crores), annual production of vegetable wastes has reached up to 24% (4000 crores), and average rate of food and vegetable wastes produced by every individual is 450 g per day. The above data witnessing clearly that waste production is remaining as an outstanding challenge for our country and the environment and creates a need for technology for handling and disposing of these collected wastes without harming the environment and atmosphere. The studies show that the development of an equipment to compost the household wastes like vegetable wastes, fruit wastes and leaves of trees. The study also focuses to reduce the time of composting by the addition of additives. It is eco-friendly, cost effective and can be operated easily.

Keywords - Environment, Waste generation, Composting, organic materials

I. INTRODUCTION

Waste has always been generated by humans. It will cause environmental impact in both lower and higher population areas. A waste collection and resources recovery system were established around the 'dust-yards'. The first and foremost constituent of municipal waste was coal ash (dust) which had a market value for brickmaking and soil improvement.^[8]

The techniques for waste management are recycling, Incineration and landfills. These are

referring to the transformation of waste to materials of lower quality. The initially with organic pollutants undergoes separate waste material that are used as substitute fuels must be crushed in advance and set at a constant calorific value. The waste that are deposited in landfills are compliant with the legal requirements.^[11]

Waste to energy process generate electricity to produce a substitute fuel such of methane, methanol. In many developed and developing countries are undergoing this process to increase the efficiency of existing waste to energy technologies. The composting process recycles organic materials regarded as waste products and it is used in soil fertility in gardens, horticulture, agriculture and organic farming.^[22]

II. LITERATURE REVIEW

A composting reactor of volume 110L and height of 80 cm is designed using the Stainless Steel (SS) metal. The reactor was insulated with rock wool. A helical ribbon agitator is fixed at the Centre of the composter which is used as a masher. In the outlet gas line, the air was drawn into reactor by an induced fan. The oxygen and CO₂ were monitored at a regular interval. The composting process is carried out with 6kgs of wet vegetable having moisture content between 92% and 94%^[21]. The collected feedstock was dried in sunlight and shredded into small pieces with a width of 3–5 mm.^[20]

The biochar was used as an additive. The biochar was produced at two different temperatures 350°C and 450°C. Biochar amended compost mixtures achieved the thermophilic temperature, increased the OM degradation by 14.4 -15.3%, concentration of NH₄ by 37.8 - 45.6% and NO₃ by 50 - 62%. The most

ELECTRO CHEMICAL TREATMENT FOR TEXTILE DYE EFFLUENT

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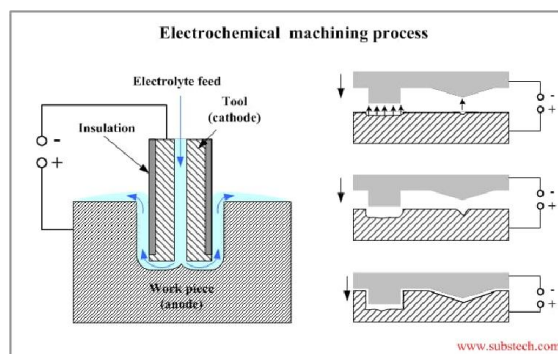
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Abstract— Textile mills are one of the major industries generating huge quantity of waste water. It requires substantial volume of water and synthetic chemicals including dyes, but the fabrics do not absorb all the dyes because 50% of the dyes are hydrolysed which generates large quantity of effluents. These effluents contain untreated and hydrolysed dyes which form complex liquid effluents. In this context an attempt has been made to develop an electro chemical based treatment technique for this effluent. Depending on the nature of the effluents, Electro Oxidation Process was chosen. This treatment involves oxidation at the anode and reduction at the cathode. The effluents were treated by galvanostatic process at different flow rates varying from 10 lph to 50 lph at various current densities (2.5 A/dm², 5.0 A/dm², 7.5 A/dm² and 10.0 A/dm²). COD were recorded for these flow rates and current densities. Encouraging results were observed at low lph (10 lph) and high current density of 10 A/dm² where the COD recorded was the lowest.

I.INTRODUCTION

Production of one kg of textile fabric requires around 200 liters of water. Depending on the raw material, the discharged effluent contains different dyes and chemicals. Out of the total effluent from the textile industry 40-45% accounts for pretreatment process, 50-55% for dyeing or printing process and remaining for the finishing process. Dyes used in these industries have more pollution load due to their non-degradability which turned out as an effluent and it contains high values of suspended solids (SS), total dissolved solids (TDS), chemical oxygen demand (COD).

Although, conventional methods like adsorption, coagulation and biological oxidation processes have advantages for treating these effluents but need more time for treatment, lacking in their effectiveness and also generate secondary effluent.



Hence, a new electro chemical technique has been adopted for treating these effluents effectively. The electrochemical treatment involves oxidation at anode, reduction at cathode, deposition of the metals at the cathode, migration of ions through a semi permeable membrane under the influence of electric field.

Materials and Methods:

II.MATERIALS

Potassium dichromate (K₂Cr₂O₇) and ferrous ammonium sulphate (FAS) reagents and ferroin indicator were prepared. A mixture of silver nitrate (AgNO₃) and sulphuric acid (H₂SO₄) needed for titration were also prepared. An Electrolytic cell of capacity 4.5 litres consisting of an anode made-up of Ruthenium (IV) oxide (RuO₂) coated on titanium (Ti) mesh and cathode made up of stainless steel. The diameter and height of anode was 5 cm and 100 cm and cathode was 7.5 cm and 110 cm respectively and were arranged as concentric cylinders

CO-EXTRACTION OF PECTIN AND POLYPHENOL FROM MORUS NIGRA POMACE USING AN ECO-FRIENDLY TECHNIQUE

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Abstract - The Review on a simultaneous recovery of pectin and polyphenols from (*Morus nigra*) black mulberry pomace (BMP) using an eco-friendly extraction process. The microwave-assisted extraction variables were co-optimized pectin and polyphenols yields as responses. The physicochemical analysis indicated a highly esterified pectin and galacturonic acid (GalA). FTIR and NMR spectroscopies identified the presence of BMP pectin. An amorphous structure for the majority part of BMP pectin XRD analysis were given. Also, higher thermal stability for BMP pectin in comparison to commercial pectin shown by DSC. More over, the antiradical activity of BMP phenolic extract were close to butylated hydroxyanisole (BHA) and ascorbic acid. The review proved that the given procedure can be a promising solution for the management of BMP waste generated in juice, syrup, or liquor processing plants. Also, the obtained products shown that the products have the highest potential to be used as natural ingredients in varieties of the food and pharmaceutical materials.

Key words

Morus nigra (black mulberry pomace), pectin, phenolic compound.

I. INTRODUCTION

Every day , Huge amount of agro-food residues are generated in the form of peel, husk, seed, pomace, etc. in food processing sectors. The disposal of such a large volume of waste poses serious challenges such as environmental pollution problems, and the loss of valuable compounds [1]. To reduce these issues is to

treat them as a potential source of valuable compounds and reuse them in extraction and production of marketable value-added products. This process can also prevent the depletion of natural resources, enhance the agribusiness opportunities, and support the rural livelihoods [2].

Mulberry is a member of Moraceae family originating from temperate and tropical regions of Asia [3]. There are three most important mulberry species are white, red , and black , which in the meantime, black mulberry has a special place because of the extraordinary functional properties [4]. In addition to its unique nutritional properties, black mulberry also has antioxidant, anti-cancer, and anti-inflammatory properties due to the presence of phenolic compounds including phenolic acids, flavonols, and anthocyanins [5]. Polysaccharides is highly present in fruits such as pectin with good antioxidant, antitumor and antimicrobial properties [6]. Generally, black mulberry is consumed freshly, but a large quantity is used in food processing sectors to produce juice, syrup, and liquor which in these cases, the generation of a huge volume of pomace is inevitable. Regrettably , this usable source of phenolics [3–5] and pectin [6] is usually discarded as waste, when we extract these compounds from black mulberry pomace (BMP), not only can increase the economical benefits of production units but also can reduce the amount of BMP residues and its subsequent environmental issues [1]. Pectin is a plant polysaccharide with the main foundation of (1 → 4) galacturonic acid partly esterified in some carboxylic groups. This polysaccharide is mostly used in the

SYNTHESIS OF ACETYLATED STARCH NANOPARTICLES FOR FOOD PACKAGING APPLICATION

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Abstract— The aim of this study is to prepare acetylated starch nanoparticles and to evaluate its potential to be used as a filler for food packaging mediums. Corn starch was selected as the raw material and subjected to chemical modification by acetylation process. Parameters such as mass, stirring time were varied and their effects on degree of substitution (DS) were studied. The swelling power of the acetylated starch was determined. Spectrophotometric analysis was carried out to confirm the attachment of acetyl moiety. Nanoparticles were synthesized from acetylated starch by solvent displacement method and their morphology and thermal properties were analysed. Film was casted using polyvinyl alcohol and glycerol was used as the plasticizer and the modified starch was used as the filler. Properties such as thermal, mechanical, barrier were analysed. The biodegradability of the film was also studied.

Keywords— Food packaging, corn starch, Acetylated starch, Nanoparticles, Degree of substitution, polyvinyl alcohol

I. INTRODUCTION

Food packaging is an integrated system of preparing food for storage, transport, distribution, retailing and end-use to satisfy the necessity of customers. It is an essential part of the modern society; commercially processed food could not be handled and distributed safely without packaging (Shin and Selke, 2014). In early times traditional materials such as leaves, vegetables, fibres were used for domestic storage and local sales of food. Since these materials possessed poor barrier properties, the usage of non-biopolymeric films came into existence. These films have higher strength, puncture resistance and are resistant to chemicals. However none of the non-biopolymeric films offer complete resistance to the atmospheric gases, water vapour. Another big drawback of these films is that they do not meet increasing demands in society for sustainability and environmental safety (Development The Schumacher Centre for Technology &, 2011). To meet the above requirements films are prepared using biopolymeric materials. PVA is one of the most popular synthetic biopolymers used for food packaging due to its good compatibility, biodegradability and acceptable mechanical and thermal properties. It is non-toxic, odourless and also possess good chemical resistance. There is presence of many hydroxyl groups on the PVA surface which makes it one of the most hydrophilic polymers with high moisture sensitivity, and hence its resulting blends and composite materials became popular for packaging application (Waheed et al., 2017).

Starch is one of the most abundant biopolymer in nature and major ingredient in food and pharmaceutical industries. The main drawback of starch is their water absorption ability

so modification is required to change starch to hydrophobic. Chemical modification of starch involves the reaction of hydroxyl groups on Anhydro Glucose Unit (AGU) based on oxidation, acetylation, hydroxy propylation, carboxylation, cross-linking. AGU is monomer of starch which is having three hydroxyl groups. Therefore DS always lies in between 0 to 3. Degree of substitution (DS) is the average number of substituent per Anhydro Glucose Unit (AGU) (Sagar et al., 2012). The introduction of polymer nanotechnology in food packaging aims to improve the principal features of traditional packaging systems i.e., containment (ease of transportation and handling), convenience (being consumer friendly), protection and preservation (avoids leakage or break-up and protects against microbial contaminants, (offering longer shelf life), (Sharma et al., 2017). Increasing interest towards nanoparticles prepared from biopolymers led to generate nanoparticles from biopolymers such as starch (Uzun and Kokini, 2014). Starch is often used as filler in biodegradable matrices such as PVA, PHA, PLA, PCL and aliphatic polyesters with the aim of reducing cost at acceptable property thresholds (Boufi et al., 2018). Starch nanoparticles can improve not only the mechanical and physical properties but also the biodegradability of the host polymer matrix. The properties of starch nanoparticles could also depend on the botanical origin of the starch. This is due to the fact that important characteristics of starch such as granule morphology and the relative proportion of amylose and amylopectin are believed to depend on the botanic origin of starch (Torres et al., 2015).

II. MATERIALS AND METHODS

Corn starch was purchased from Sisco Research Laboratories Pvt.Ltd. Acetylated starch was prepared by acetylation process, the degree of substitution was improved by varying the parameters, such as the quantity of acetic acid, quantity of acetic anhydride and stirring time. Acetylated starch nanoparticles were synthesised by Solvent displacement process. PVA was purchased from Thermo Fischer Pvt ltd.

III. PREPARATION OF ACETYLATED STARCH

One of the derivatives of acetylation process is Acetylated starch. The acetylation process was carried out when 7.5 g of corn starch was added to the mixture of 13.5 ml acetic acid and 13.8 ml acetic anhydride. Then the mixture was magnetically stirred (400 rpm) at 40°C for 1 hour and then it was cooled down to 0 °C. A solution of concentrated sulphuric acid (0.105 ml) and acetic acid (1.245 ml) is added to the mixture and stirred for 10 minutes. The



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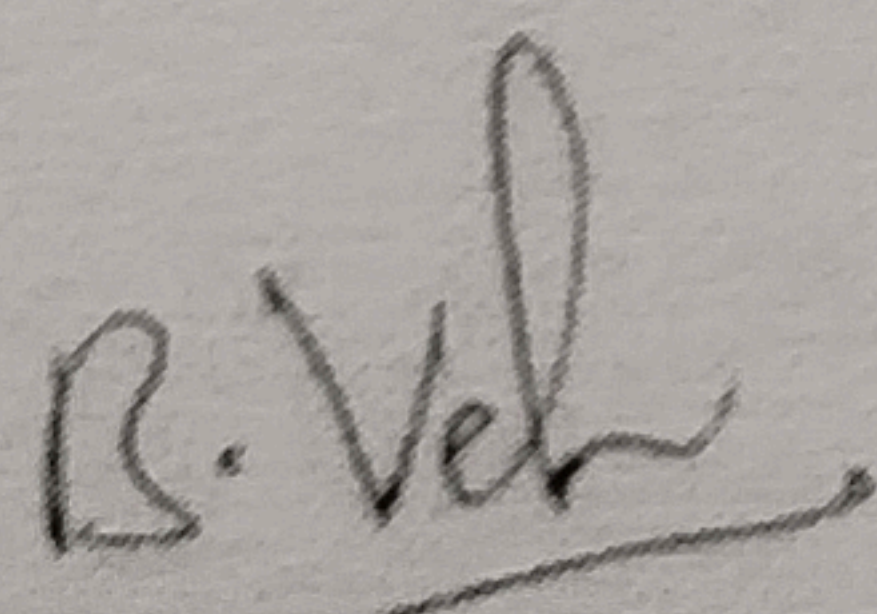
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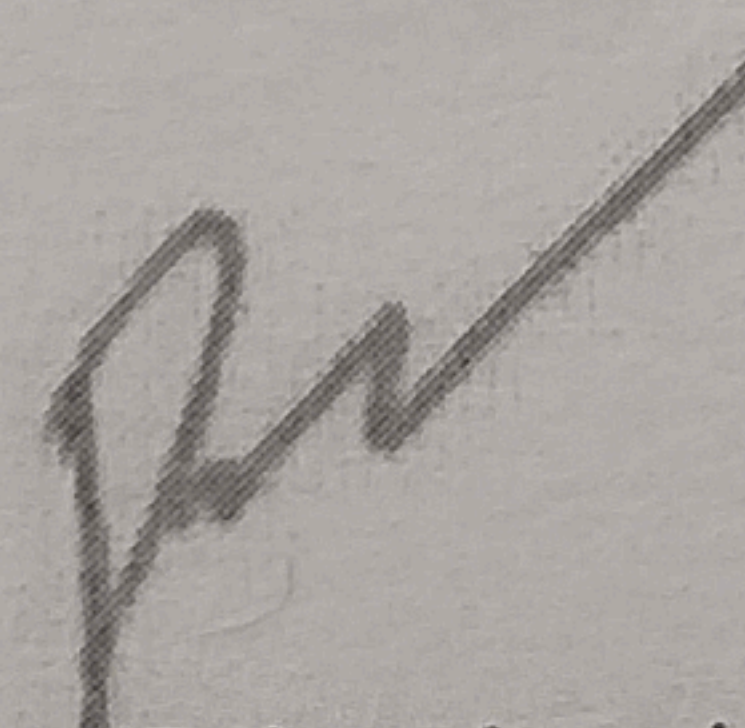
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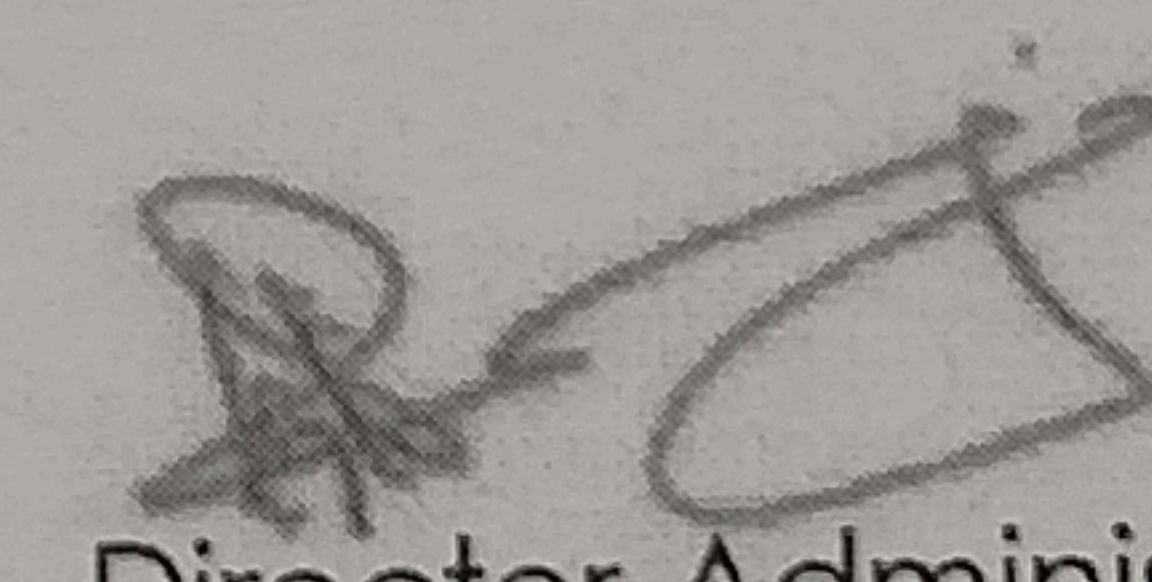
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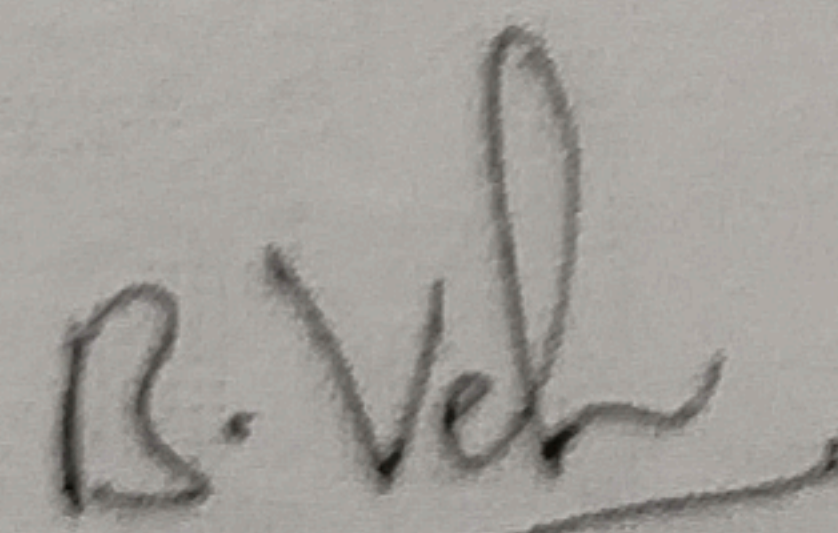
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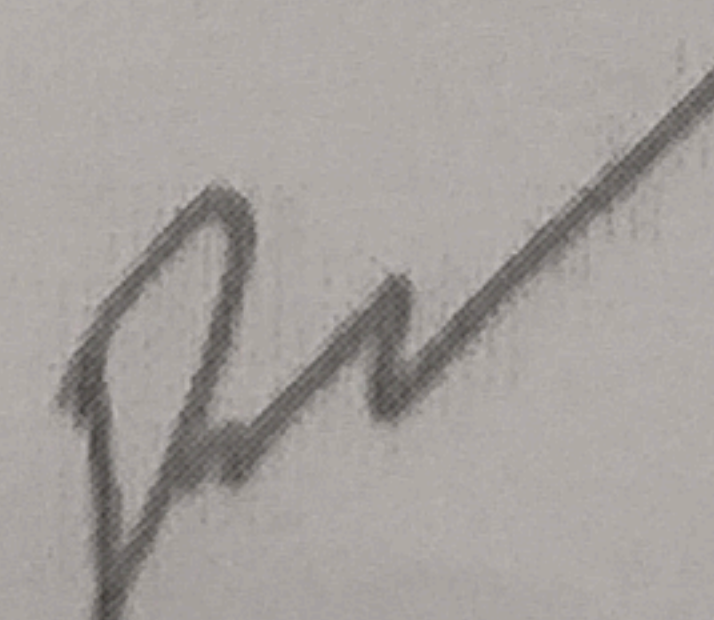
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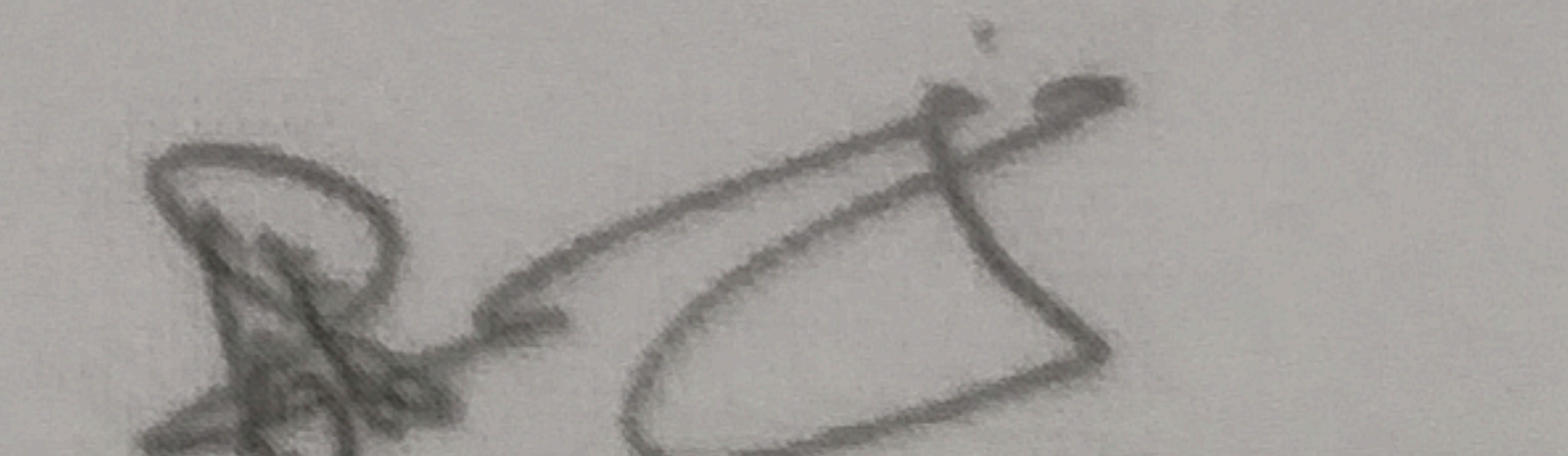
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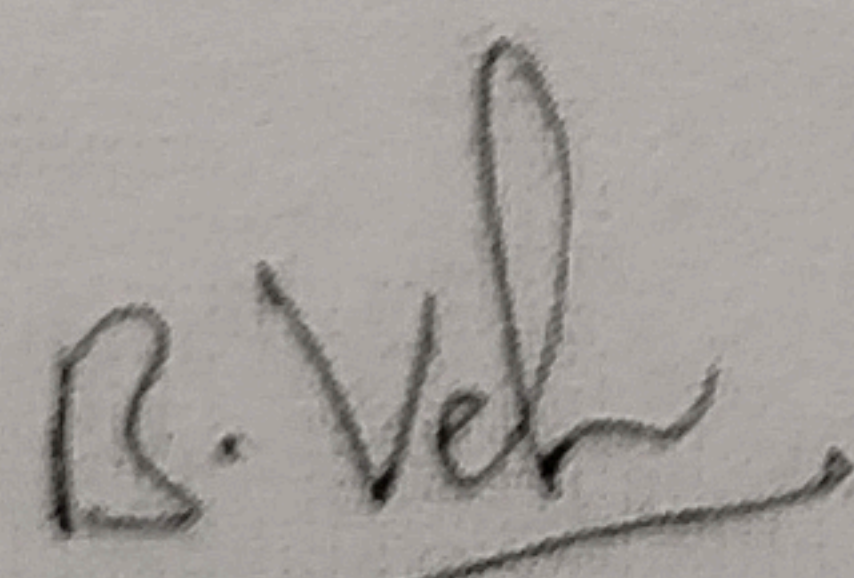
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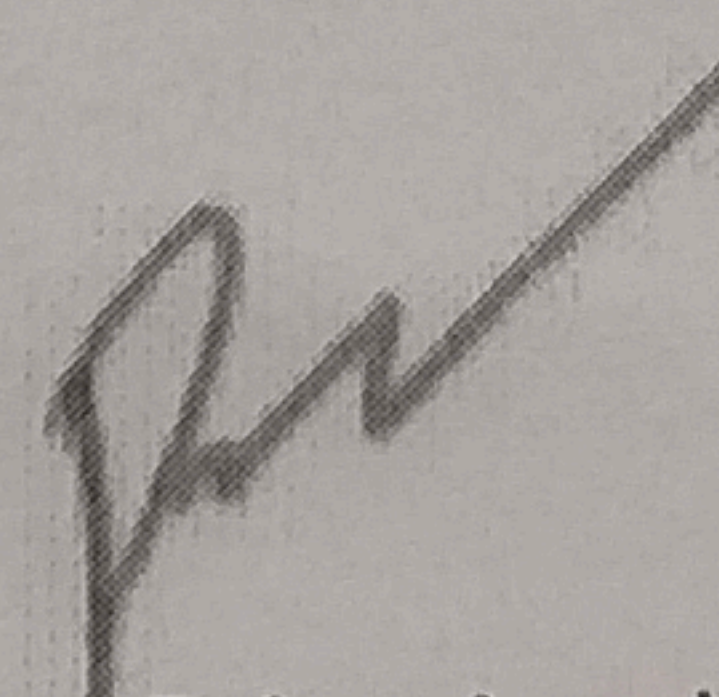
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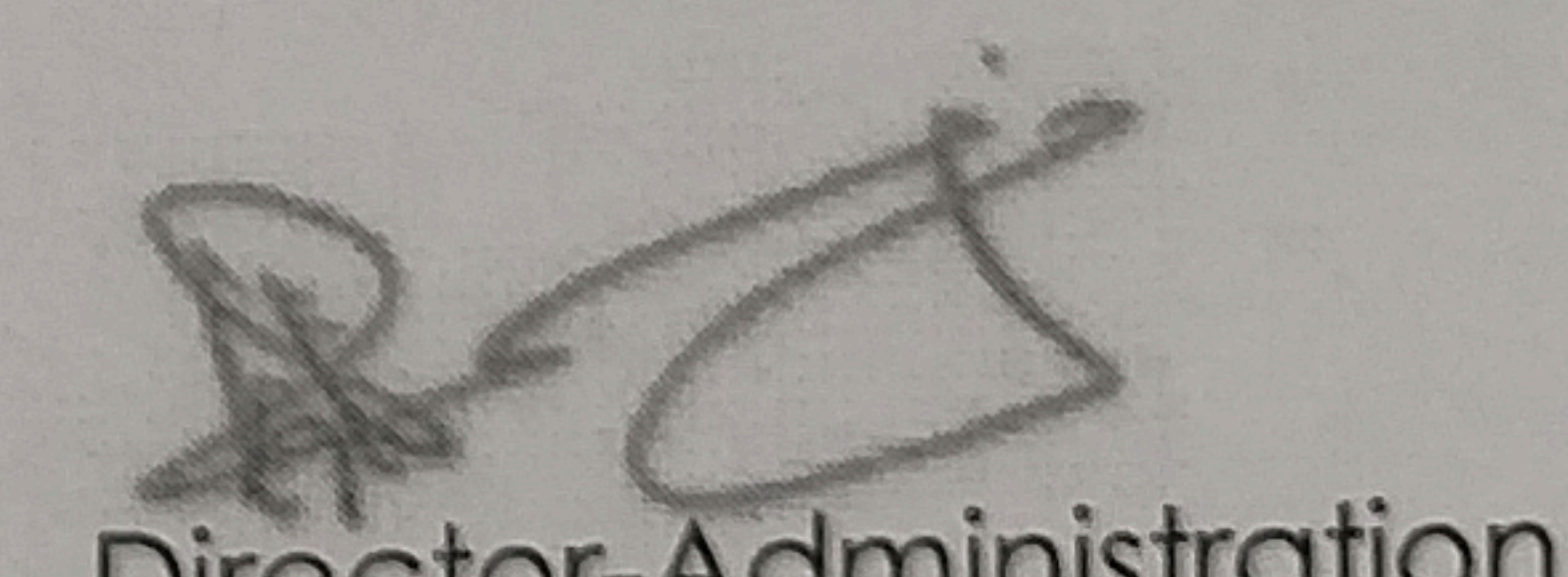
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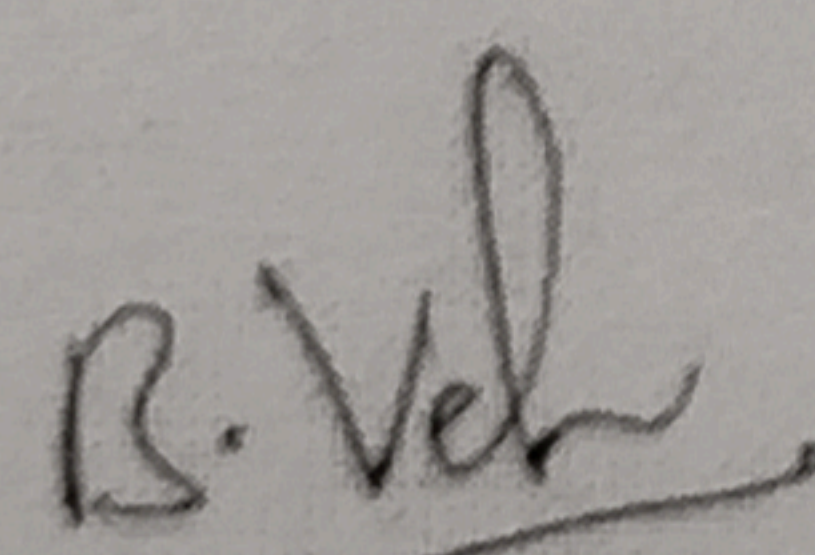
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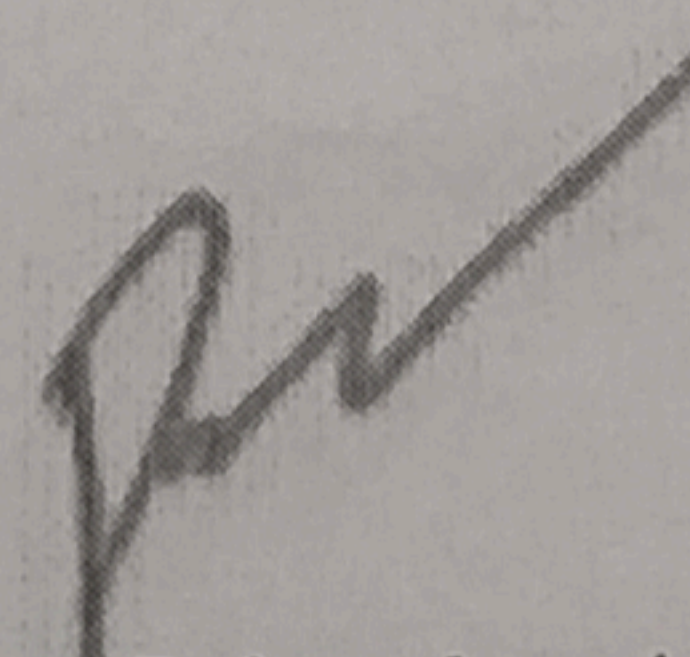
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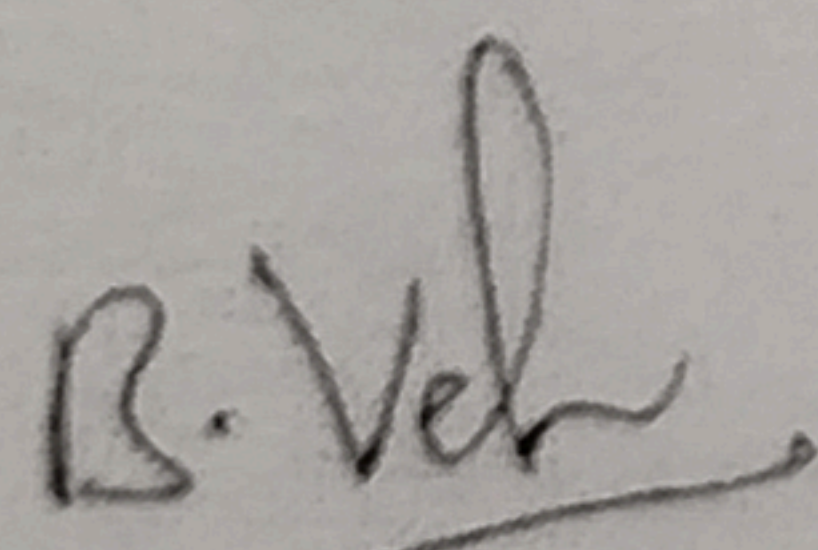
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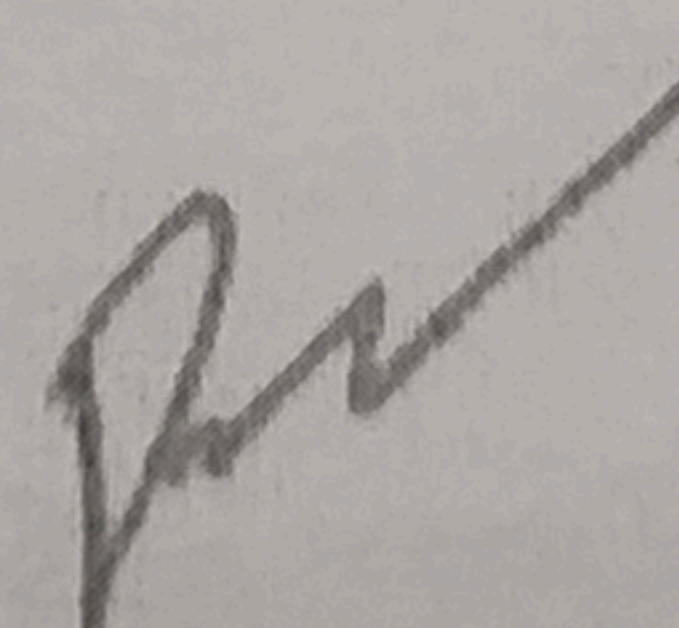
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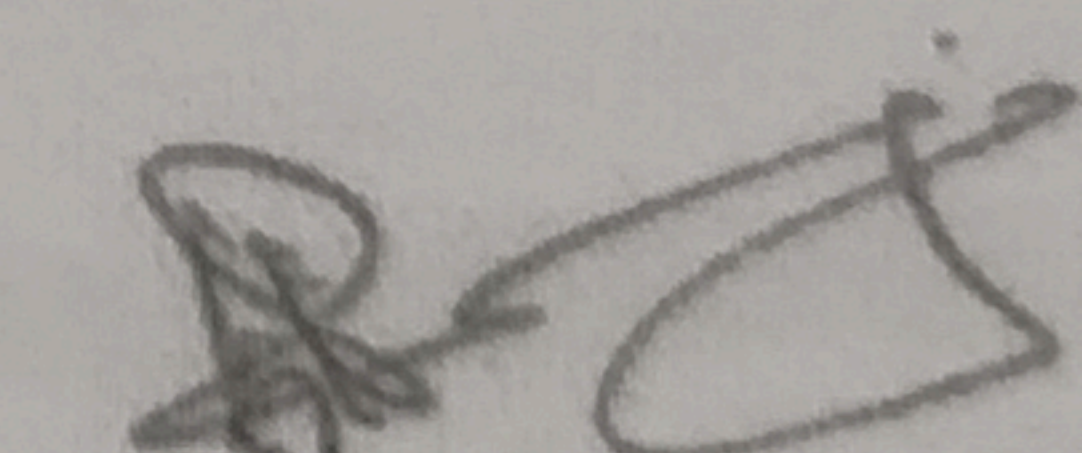
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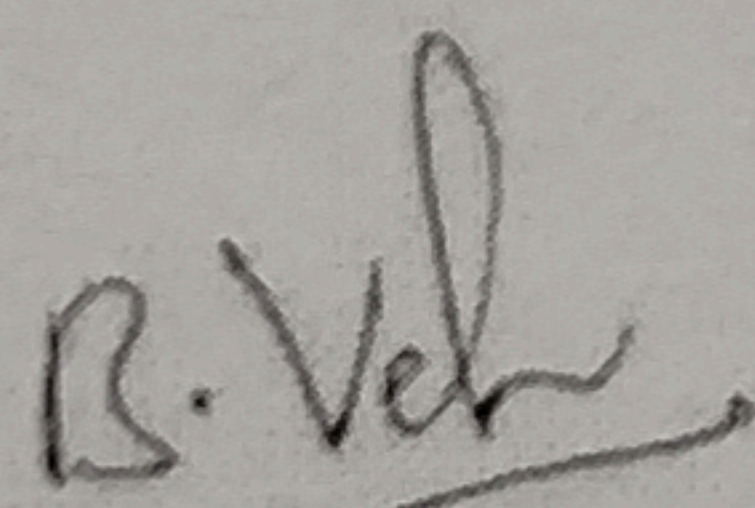
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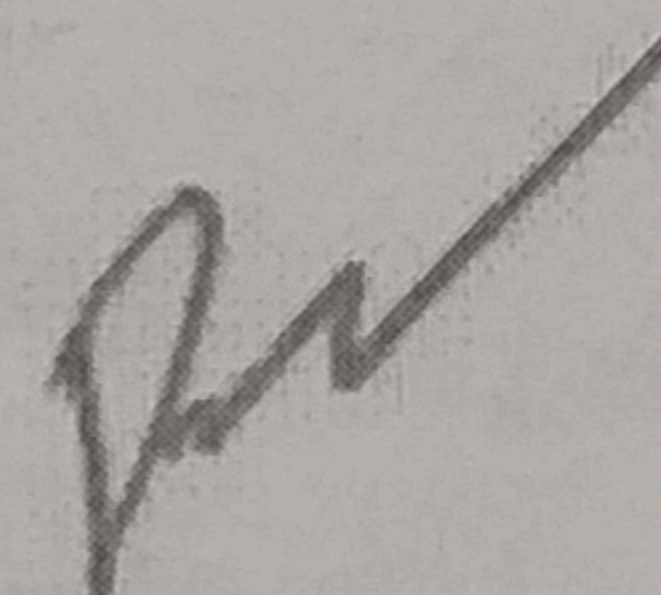
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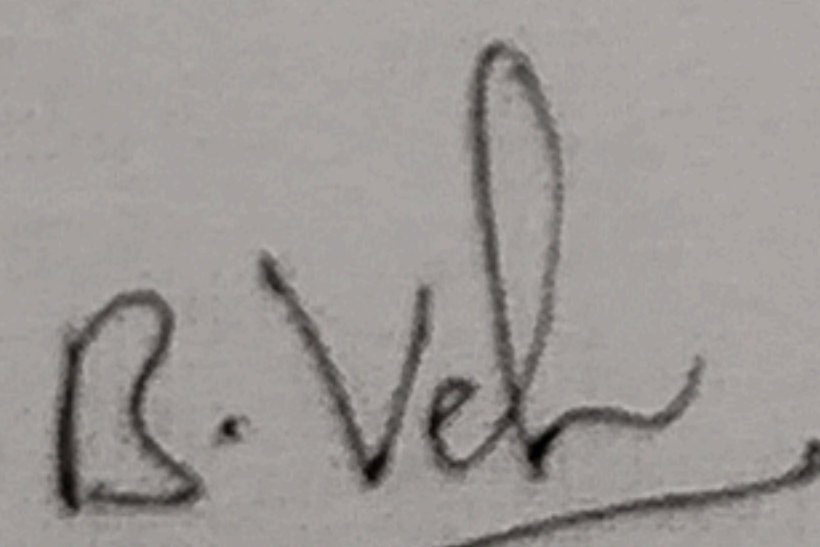
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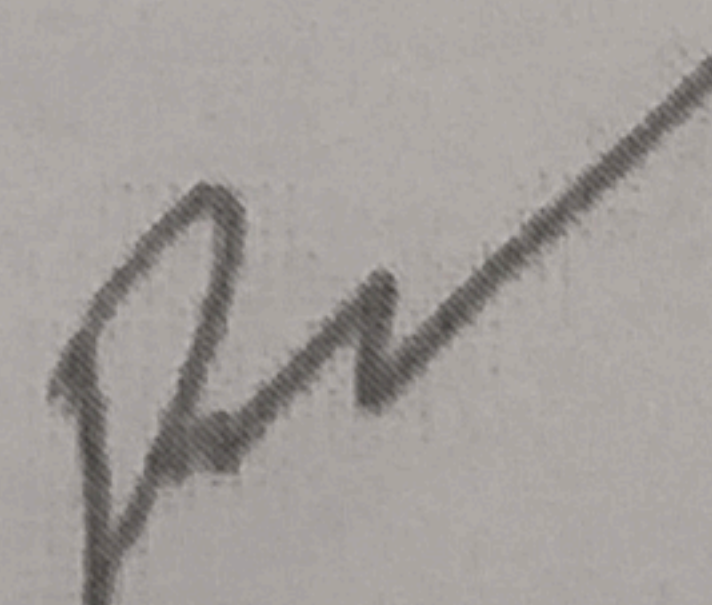
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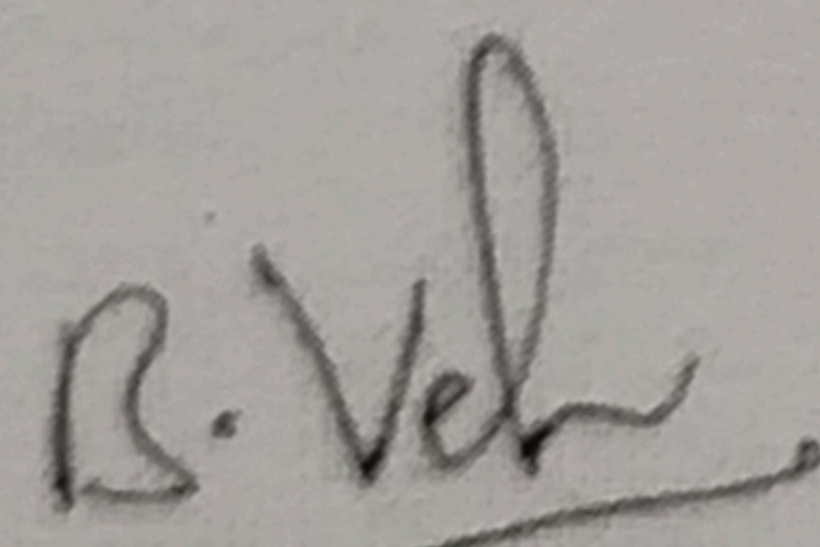
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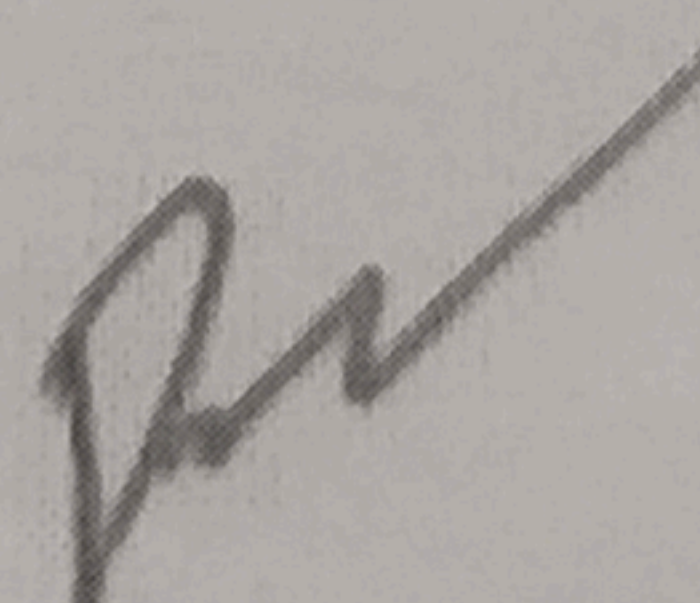
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VOICE BASED PRESCRIPTION GENERATION USING PYTHON

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ABSTRACT

Since prescriptions in hospitals are still written by hand, illegible handwriting may lead to major problems like taking the wrong drug or taking the wrong quantity of the drug by patient. This may cause the serious issue of health or death of the patient. To solve this issue voice-based prescription generation system came into the picture where the prescription is taken as input in voice format with help of Google speech recognition API to convert speech to text. This text transcript is obtained to conduct name entity recognition (NER) task to extract medical entities from text. In this way, the digital prescription will be generated. For performing the NER task Bi-LSTM and CRF networks are used. This system is built using MERN (MongoDB, Express JS, React JS, and Node JS) stack where React JS technology is used for the frontend along with this Node JS and Express JS is used with MongoDB database as backend. This independent platform web-based system will improve the procedure of generating prescriptions.

Key Words: Speech Recognition, Speech to text, Annotations, Natural language processing (NLP), Named entity recognition (NER), Electronic Health Record (EHR), MERN (MongoDB, Express JS, React JS, and Node JS).

INTRODUCTION

A prime problem today in India and abroad is most prescriptions are still written by hand. If a doctor has given some medicine, for example, "Vyvanse tablet" such medicine is only readable by pharmaceutical people like chemist due to illegible handwriting of doctor causes the non-medical background people to interpret the prescribed medicines erroneously. This causes a problem, a patient will not be able to read prescription correctly and also not able to verify medicine given by chemist is as per prescription or not. If medicine given by chemist is wrong by misunderstanding then these cause lots of damages or adverse drug reactions (ADRs) to patient [1]. Furthermore, the problem with all hospitals is not having any method like an electronic health record system to know the history of the patient and what types of tablets consumed in the past of a particular patient. Writing prescriptions by hand

takes time which leads to doctors attending only fewer patients in the scheduled time. Now, it is the time of the computer era where, everything is computerized, boosting the pace of human life. To make the prescription generation system computerized, the scenario of voice-based prescription generation system using AI comes into picture. A solution to the above-mentioned problems is to create an application that can be used to reduce the work of doctors. By using this system, the Doctor will be able to dictate his prescription to the patient and at

Drug	Duration	Strength	Route	form	Dosage	Frequency
Crosine	For 2 days	500mg	by mouth	tablet	1	Every 6 hours

Fig-1: Medication entities with example

Due to this world-changing solution, doctors will be able to handle more patients in a small amount of time. Now the chemist will be able to read the prescription rightly, also the patient will be able to verify prescription given by the the same time, this dictation is gets recorded by the system. This recorded prescription is converted to text and extracts medical entities from text like a drug, drug frequency, drug dosage, etc. Medication entities matching the above examples are demonstrated in Figure-1. In the end, a PDF prescription was generated with help of classified tokens. Additionally using this app, the Doctor should be able to edit the prescription, sign the prescription and also send it to the patient directly on his email ID. chemist is the same as written in the prescription. In Addition, a prescription is sent on a patient's email id the patient can show all previous prescriptions to the doctor. distinct hospital all prescriptions can be viewable by a doctor. This will also prevent the illegal use of patient prescription and provide security.

The objective of this project is to design a system which will generate voice-based prescription where Patient will get prescription in PDF format through the mail. So, there is no chance of wrapping, burning, and loss of prescription. If this solution is implemented in a real-time hospital system then it will lead to saving lots of time for doctors to write a prescription as well as patients to search previous prescriptions.

DIABETES PREDICTION USING MACHINE LEARNING

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ABSTRACT

Diabetes is an illness caused because of high glucose level in a human body. Diabetes should not be ignored if it is untreated then Diabetes may cause some major issues in a person like: heart related problems, kidney problem, blood pressure, eye damage and it can also affects other organs of human body. Diabetes can be controlled if it is predicted earlier. To achieve this goal this project work we will do early prediction of Diabetes in a human body or a patient for a higher accuracy through applying, Various Machine Learning Techniques. Machine learning techniques Provide better result for prediction. Big data analytics plays a significant role in healthcare industries. Big data analytics can be used to discover knowledge from huge datasets, hidden information, hidden patterns and predict outcomes accordingly. The accuracy is different for every model when compared to other models. The Project work gives the accurate or higher accuracy model shows that the model is capable of predicting diabetes effectively. Our Result shows that Random Forest achieved higher accuracy compared to other machine learning techniques.

Keywords: Diabetes, Machine, Learning, Prediction, Dataset.

INTRODUCTION

Diabetes is noxious diseases in the world. Diabetes caused because of obesity or high blood glucose level, and so forth. It affects the hormone insulin, resulting in abnormal metabolism of carbs and improves level of sugar in the blood. Diabetes occurs when body does not make enough insulin. According to (WHO) World Health Organization about 422 million people suffering from diabetes particularly from low or idle income countries. And this could be increased to 490 billion up to the year of 2030. Diabetes mellitus is further divide into type 1 and type 2 diabetes.

The most common is type 2 diabetes affecting most of the people which cause insulin resistance. Type 2 diabetes is caused by lifestyle, age and passed down by parents. The symptoms include laziness, weight loss and fasting glucose levels. A technique called, Predictive Analysis, incorporates a variety of machine learning algorithms, data mining techniques and statistical methods that uses current and past data to find knowledge and predict future events. By applying predictive analysis on healthcare data, significant

decisions can be taken and predictions can be made. Predictive analytics can be done using machine learning and regression technique. Predictive analytics aims at diagnosing the disease with best possible accuracy, enhancing patient care, optimizing resources along with improving clinical outcomes.[1] Machine learning is considered to be one of the most important artificial intelligence features supports development of computer systems having the ability to acquire knowledge from past experiences with no need of programming for every case. Machine learning is considered to be a dire need of today's situation in order to eliminate human efforts by supporting automation with minimum flaws. Existing method for diabetes detection is uses lab tests such as fasting blood glucose and oral glucose tolerance. However, this method is time consuming. This paper focuses on building predictive model using machine learning algorithms and data mining techniques for diabetes prediction.

LITERATURE REVIEW

K.VijiyaKumar et al. [11] proposed random Forest algorithm for the Prediction of diabetes develop a system which can perform early prediction of diabetes for a patient with a higher accuracy by using Random Forest algorithm in machine learning technique. The proposed model gives the best results for diabetic prediction and the result showed that the prediction system is capable of predicting the diabetes disease effectively, efficiently and most importantly, instantly. Nonso Nnamoko et al. [13] presented predicting diabetes onset: an ensemble supervised learning approach they used five widely used classifiers are employed for the ensembles and a meta-classifier is used to aggregate their outputs. The results are presented and compared with similar studies that used the same dataset within the literature. It is shown that by using the proposed method, diabetes onset prediction can be done with higher accuracy. Tejas N. Joshi et al. [12] presented Diabetes Prediction Using Machine Learning Techniques aims to predict diabetes via three different supervised machine learning methods including: SVM, Logistic regression, ANN. This project proposes an effective technique for earlier detection of the diabetes disease. Deeraaj Shetty et al. [15] proposed diabetes disease prediction using data mining assemble Intelligent Diabetes Disease Prediction System that gives analysis of diabetes malady utilizing diabetes patient's database. In this system, they propose the use of algorithms like



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SAFETY AND MONITORING SYSTEM FOR FISHERMEN USING IOT

*Mr. Vijayakumar [1], Mr. Ravishankar Kandasamy [2], Ms. Dhanavarshini V [3],
Ms. Pushpa P [4], Ms. Sathya R [5]*

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Abstract:-

The main objective of this project is to prevent the any hazardous situation such as crossing the border indication, wind speed, wave ranges above 3feet from bottom of the boat, Gun shooting indication and convey the messages to the coastal guard and fishermen association. The sea border between the two countries is not identifiable, which is the major reason for crossing the border. Here we have designed the system using IOT which products the fishermen notifying the country border to them by using Global Positing and indicate the gun shooting to coastal guard who will recover from the other nation coastal guard. This system aware the fishermen that they are about to prevent the problems. It has specific character foe normality security but addresses the National Defense normally deals with fishermen safety in marine and lifesaving.



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ICSMEAP1078

Predication of Fake Transaction on Credit Card using Machine Learning and Deep Learning with Visual Studio

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ABSTRACT

Fraudulent e-banking transactions have caused great economic loss every year. Thus, it is important for financial institutions to make the e-banking system more secure, and improve the fraud detection system. Researches for the fraud risk monitoring are mainly focused on score rules and data driven model. The score rule is based on expertise, which is Vulnerable to new patterns of frauds. Data driven model is based on machine learning classifiers, and usually has to handle the imbalanced classification problem. In this paper, we propose a novel fraud risk monitoring system for e-banking transactions. Model of score rules for online real-time transactions and offline historical transactions are combined together for the fraud detection. Parallel big data framework: Kafka, Spark and MPP G base which integrated with a machine learning algorithm is presented to handle offline massive transaction logs. Experimental results show the effectiveness of our proposed scheme over real massive dataset of e-banking transactions. This evaluation leads us to identify research gaps and challenges to consider in future research endeavors.

Keywords: e-banking transaction, fraud detection, big data, anaconda (python).



ICSMEAP1082

Fusion of Structural and Textural Features for Melanoma and Skin Disease Recognition using Image Processing

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ABSTRACT

The biggest organ of the body is human skin. Its weight lies between six and nine pounds and surface area is about two square yards. Inner part of body is separated by skin from the outer environment. Melanoma is a type of cancer that mostly starts in pigment cells (melanocytes) in the skin. In order to improve the diagnostic performance of melanoma, dermoscopy technique was developed. Dermoscopy is a non-invasive skin imaging technique of acquiring a magnified and illuminated image of a region of skin for increased clarity of the spots on the skin. Dermatological diseases are the most prevalent diseases worldwide. Despite being common, its diagnosis is extremely difficult and requires extensive experience in the domain. Melanoma is the deadliest form of skin cancer. While curable with early detection, only highly trained specialists are capable of accurately recognizing the disease. As expertise is in limited supply, automated systems capable of identifying disease could save lives, reduce unnecessary biopsies, and reduce costs. We use a dual stage approach which effectively combines Computer Vision on clinically evaluated histopathological attributes to accurately identify the disease. In the first stage, the image of the skin disease is subject to various kinds of pre-processing techniques followed by feature extraction. The second stage involves the use of algorithms to identify diseases based on the histopathological attributes observed on analysing of the skin.

Keywords: Image Recognition, Skin Diseases, Melanoma, Dermoscopy Images, Classification Learner App.



ICSMEAP1079

Smart Security Gadget for Women's Safety

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ABSTRACT

In today's day to day life, we hear many unfortunate incidents taking place in women's case. The popular in reference is that women are not safe, as there are many drawbacks on both the sides of a coin-the victims and the law enforces. An age's old practice is still continuing today in the form of harassment, blackmailing act. Today cyber world or virtual world has opened up new way to reach out the women attacked. We propose to have a device which is the integration of multiple devices, hardware comprises of a wearable "Smart band" which continuously communicates with smart phone that has access to the internet. The application is programmed and loaded with all the required data which includes Human behavior and reactions to different situations like anger, fear and anxiety. This generates a signal which is transmitted to the smart phone. The software or application has access to GPS and messaging services which is pre-programmed in such a way that whenever it receives emergency signal, it can send help request along with the location co-ordinates to the nearest police station, relatives and the people in the near radius who have application. This action enables help instantaneously from the police as well as public in the near radius who can reach the victim with great accuracy. In this project system was wearable devices that will transmit data for comparing with the training dataset and if irregular values in temperature, pulse rate are identified then message will be sent to her family member, nearby police station and we include shock wave generator. The device contains Arduino Pro-Mini Microcontroller with a GSM (Global system for Mobile Communication) module and can send (Short Message Service).

Keywords: Microcontroller, control, GSM system.



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ICEMSAP1038

A Survey on IOT Virtual Doctor Robot

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ABSTRACT

Our project deals with the modalities of the Smart Virtual Doctor Robot using Internet of Things (IoT), a user-friendly health Robotic machine with an interactive user interface for medical necessities. It is a virtual health check-up/test/self-screening system, aimed at being the first point of contact for patient screening, to monitor heart rate, blood pressure, temperature and oxygen saturation. In case of emergency, a doctor will be available online through a video call, based on the severity of patient's conditions, a call can be placed by a doctor to book an ambulance (based on the conditions). In non-emergency cases, the system will also dispense medicines prescription based on the health conditions. As an overall outcome, where medical facility is not available immediately the practitioners feel the system can be adopted in any area. Adopting this technique in such regions not only help in medical emergencies/epidemic/pandemic like COVID, it also increases the share of survival. Our overall system is controlled and monitored using Microcontroller and IOT.

Keywords: health robotic machine, virtual health check-up, patients screening, microcontroller and IOT.



ICEMSAP1043

IOT Integrated Air Quality Sensor Using 2NAOH Chemical Neutralizer

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ABSTRACT

In this project we control the unsafe gases of sewage tank with the imbecilic of modern sewage wastages. With ascend in how much hotness catching gases the earth is getting hotter step by step, prompting an Earth-wide temperature boost. sewage gas is the significant donor of the ozone harming substances. The principle point of this examination is to lessen the green house impact by ongoing checking and controlling of sewage gas outflow caused because of vehicles and ventures. In this proposition we have attempted to make the sewage gas locator savvy by saving the sewage gas levels in various locales. The model is practical and furthermore can be effortlessly delivered and coordinated with vehicles and furthermore in businesses. Such ordinary disasters bring colossal loss of proprietorship and life. To beat these issues this undertaking is proposed. Regulator is used for controlling all of the tasks. Sodium hydroxide is utilized in controlling process. Our structure includes a prosperity security framework and control room which is associated through IOT recipient. Here we screen the co₂, methane, hydrogen sulfide utilizing atmega328p with assistance of IOT module to convey the above boundary remotely and furthermore here we add programmed buffering framework which help to weaken the mischief full gas at in a flash.

Keywords: Internet of Things (IOT), WIFI, Arduino uno, Alert message.



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ICOSTAP1008

IOT Based Anti-Poaching and Fire Alarm System

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ABSTRACT

Poaching of wild animals and forest fire have been a major concern in many countries. The recent fire incident in Australia has highlighted the need of detecting forest fire in its initial stages. Poaching has a huge imbalance in the ecosystem, due to poaching many endangered species are now on the brink of extinction. A framework of IoT based Anti-poaching and Fire alarm System (IAFS) designed in this paper comprises of three sensors, i.e., temperature sensor, smoke sensor and Light Dependent Resistors (LDR) sensor. The proposed IoT based IAFS device consists of Arduino board which collects all the data from these sensors and relays the information to the cloud. The cloud platform continuously monitors the data and sends an alert notification via SMS to the forest officials whenever there is any intrusion detected. The aim of this proposed IAFS is to be able to remotely monitor forest cover and poaching of wild animals. Even with all the addition of extra manpower to curb the poaching activities and safeguard the forest, it is still inefficient owing to the large and dense forest area. The proposed IAFS enables forest officials to monitor the forest area and collect data of any intrusion remotely.

Keywords—Anti-poaching, Arduino Board, IOT



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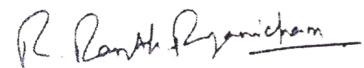
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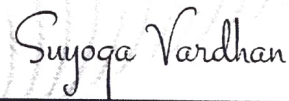
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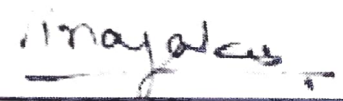
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Internet of things based smart cooking system

Authors

SA Sivakumar, S Vijay Murugan, V Nagaraj, Balachandra Pattanaik, Manjula Pettnaik, Muruganantham Ponnusamy

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Description

By and by, things are changing rapidly in the world. Many machines are made which simplified human life. By and by, social classes are so much involved in their work. People feel that there should be an advancement that will diminish their obligation. Web of Thing fulfils this need of people. People reliably go in kitchen for setting up the food Nonetheless, it will wind up being a dangerous situation in the event that there is spillage in gas chamber. The predominant view is to diminish the mischief in cookery units using IOT. This research work has proposed the arrangement and advancement of an IoT to recognize gas spillages in a kitchen units. Its yields are then interfaced with a handheld microcontroller altered in low level processing build. The wireless application is intended to send gas spillage cautions as SMS. This attribute can be obtained and that can be composed with the computerization structure, which ...



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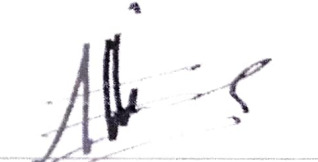
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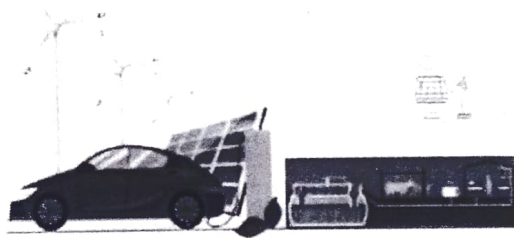
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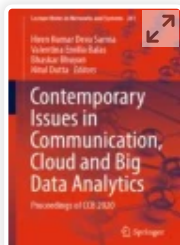
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Contemporary Issues in Communication, Cloud and Big Data Analytics pp 373–383

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PSO Optimum Design-PID Controller for Frequency Management of Single Area Multi-Source Power Generating System

[V. Kumarakrishnan](#), [G. Vijayakumar](#), [K. Jagatheesan](#), [D. Boopathi](#), [B. Anand](#) & [V. Kanendra Naidu](#)

Conference paper | [First Online: 01 December 2021](#)

584 Accesses | **3** Citations

Part of the [Lecture Notes in Networks and Systems](#) book series (LNNS, volume 281)

Abstract

In this article, Particle Swarm Optimization (PSO) tuned Proportional-Integral-Derived (PID) controller is proposed for frequency management of a single area multi-source power generation unit. The power system comprises of both renewable and non-renewable energy sources which includes

thermal, solar and wind power generating units. In this work, Integral (I), Proportional -Integral (PI), and PID controllers are utilized as a subsidiary controller to regulate frequency deviation of the power system during unexpected load variation. The gain values of the controller are tuned by applying conventional (trial and error) scheme and PSO technique. Conventional method tuned Controller tuned using conventional method shows that PID controller provides superior response over I and PI controller response. Subsequently, PSO is implemented to tune PID controller gain values. To demonstrate the superiority of the PSO-PID controller, the output response is compared to the conventional tuned PID controller result. It is obvious from the comparison, the PSO-PID controller is provides fast settling time with minimal frequency overshoot and undershoot at various loading conditions.

Keywords

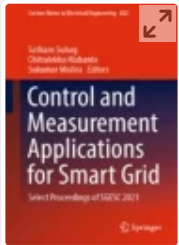
Particle Swarm Optimization

Proportional-Integral-Derivative

Frequency regulation Frequency deviation

Settling time

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Control and Measurement Applications for Smart Grid pp 129–141

[Home](#) > [Control and Measurement Applications for Smart Grid](#) > Conference paper

Frequency Regulation of Interconnected Power Generating System Using Ant Colony Optimization Technique Tuned PID Controller

[V. Kumarakrishnan](#), [G. Vijayakumar](#), [D. Boopathi](#), [K. Jagatheesan](#), [S. Saravanan](#) & [B. Anand](#)

Conference paper | [First Online: 01 February 2022](#)

413 Accesses | **4** Citations

Part of the [Lecture Notes in Electrical Engineering](#) book series (LNEE, volume 822)

Abstract

Ant colony optimization technique (ACO) is proposed for frequency regulation of single area power generating network. The proposed system consists of thermal power generating system with reheater, turbine, governor, hydrogen aqua electrolyzer (HAE), and fuel cell (FC). Proportional–

integral–derivative (PID) regulator acts as an auxiliary regulator to maintain the frequency deviation during unexpected load demand. The proposed PID controller gain values are tuned by utilizing ACO tuned PID regulator with ITAE objective function. To show the superiority of the ACO technique and the performance, responses were equated with conventional method PID controller's results for the identical power network. The dynamic performance of the suggested ACO-PID regulator gives improved response over conventional PID in terms of quick settling time.

Keywords

Ant colony optimization

Proportional–integral–derivative controller

Fuel cell Hydrogen aqua electrolyzer

Frequency regulation

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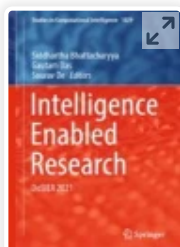
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Intelligence Enabled Research pp 53–64

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Mayfly Algorithm-Based PID Controller for LFC of Multi-sources Single Area Power System

[T. Muthukumar](#), [K. Jagatheesan](#) & [Sourav Samanta](#)

Chapter | [First Online: 30 March 2022](#)

164 Accesses | **3** Citations

Part of the [Studies in Computational Intelligence](#) book series (SCI,volume 1029)

Abstract

This proposed research work is LFC of multi-sources single area power generating units with proportional–integral–derivative (PID) regulator.

Multi-sources power generating unit comprised of thermal hydrogas (THG) power generating plants. In this work, mayfly algorithm (MA) technique is adopted to optimize the gain parameters of the PID regulator. Integral time absolute error (ITAE) objective function is considered at the time of gain

tuning. The response of the proposed technique is equated with the genetic algorithm (GA) and particle swarm optimization (PSO) techniques tuned PID controller for the identical techniques to prove the superiority of the proposed controller. During the investigation, 1% step load participation (SLP) is considered. Finally, improvement clearly shows that proposed the MA-PID controller is superior to GA and PSO techniques in terms of quick settling time and minimal overshoot and undershoot under unexpected loading situations.

Keywords

Mayfly algorithm Matting trajectory

Regulatory controller Stabilized frequency

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Meta-heuristic Strategy Planned Controller for Frequency Supervision of Integrated Thermal Plant with Renewable Source

Publisher: IEEE Cite This PDF

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Abstract: In this artwork, an application of the metaheuristic optimization approach designed Proportional - Integral - Double Derivative (PID) controller is recommended to implement Automatic Generation Control (AGC) / Load Frequency Control (LFC). It consists of two areas integrated thermal power plants with renewable energy sources. The Ant Colony Optimization (ACO) approach is recommended to reap the benefit parameters of the controller inclusive of Proportional gain (Kp), Integral advantage (KI), and Double- Derivative gain (KDD). The Integral of Time Absolute Error (ITAE) is considered as the objective function for ACO. Performance of the proposed controller (ACO - PID) with ACO-PID and Conventional PID is in comparison and it proves the improvement as for as time-domain parameters in the proposed framework.

Published in: 2021 IEEE 3rd PhD Colloquium on Ethically Driven Innovation and Technology for Society (PhD EDITS)

Date of Conference: 13-13 November 2021	INSPEC Accession Number: 21530357
Date Added to IEEE Xplore: 24 December 2021	DOI: 10.1109/PhDEDITS53295.2021.9649544
ISBN Information:	Publisher: IEEE
	Conference Location: Bangalore, India

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I. Introduction

In recent days the growth of industries and modernization of domestic life creates more electric power demand. To balance the power demand the countries are moving to new generation units that are the penetration of renewable energy sources or increase the capacity of the existing plants. While increasing the plant complexity, maintaining the power quality is too difficult, during the sudden loading condition. In order to handle this situation, selecting of best controller and interconnection of power plants with renewable energy sources are necessary to improve the quality of power system operation and control. To determine power quality includes voltage, current, and frequency deviations in the power grid. During the abnormal condition, these parameters have deviated from the nominal limit; this is a not good one for the electrical equipment at the consumer end. In this research work, the deviation in the frequency is taken as the problem and finds the proper solution to maintain the frequency at standard at all loading conditions. To control and maintain the frequency deviation, each power plant has a primary controller. Those controllers are not enough to properly function the system effectively.

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Abstract: In this proposed research delivers about the frequency stabilization of hybrid power system (thermal unit with Distribution Generation System (DGS)) is analyzed by considering Proportional Integral Derivative (PID) regulator as an auxiliary controller. Gain values of the introduced regulator is tuned by Grey Wolf Optimization (GWO) technique with the Integral - Time - Absolute - Error (ITAE) objective function. The behavior of the projected optimization technique tuned controller is examined in this research work by comparing the response with Genetic Algorithm (GA), Particle Swarm Optimization (PSO) and Ant Colony Optimization (ACO) tuned controller behavior to show its efficacy. In the proposed work, all the analysis is carried out by applying one percent step - load - perturbation (1% SLP). And, also time domain specification parameters are measured to demonstrate the effectiveness of GWO dependent on the PID controller. Simulation results proves that GWO designed PID controller provides more supremacy (lesser Peak overshoot and undershoot with minimal relaxing time) result during emergency loading condition over GA, PSO and ACO technique designed secondary PID controller.

Published in: 2021 9th IEEE International Conference on Power Systems (ICPS)

Date of Conference: 16-18 December 2021	INSPEC Accession Number: 21458193
Date Added to IEEE Xplore: 14 January 2022	DOI: 10.1109/ICPS52420.2021.9670154

► ISBN Information: **Publisher:** IEEE

I. Introduction

The recent modernized world load demand has been increased day by day due to that power surpluses are increased and frequency of generated power supply also affected so it deviates from its nominal values by disturbing the stability of power producing system. In this crisis distributed generating system plays a vital role in [Significant Contribution of DG in a small electric power generating units and it has been located near the load center and consumers. The several small power generating unit develop the DG systems and it includes wind energy units, battery energy storage units, diesel generator unit and fuel cells etc.](#)

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Optimization and Effect Analysis of Sustainable Micro Electrochemical Machining Using Organic Electrolyte

V. Subburam  [S. Ramesh](#) & Lidio Inacio Freitas

Chapter | [First Online: 01 June 2021](#)

541 Accesses

Part of the [Materials Forming, Machining and Tribology](#) book series (MFMT)

Abstract

Electrochemical Micromachining (EMM) is a non-conventional technique that has the potential to provide excellent accuracy due to its ionic dissolution nature. The technique is evolving rapidly with continuous research works and emerging as a frontline technology in the micro-fabrication domain. The dominant input factors of electrochemical machining (ECM) process become very sensitive at micro-domain and parametric optimization is inevitable for enhanced performance. New researches are required to enhance every aspect of the processing system

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Experimental Investigations on Heat Transfer Enhancement in Double Pipe Heat Exchanger Using PT-SCA and PTT-SCA Twisted Insert Profile



A. P. Sivasubramaniam, K. Mayilsamy, and P. Murugesan

1 Introduction

All processing industries that require heat energy use heat exchanging devices. Over the years it was found that there is lot of scope for energy saving and size reduction to make them compact through research works. As these heat exchanging devices involve convective transfer, enlarging the heat transferring surface has become one of the main criteria. This can be noticed from the continuous rise in literature available world-wide on heat transfer enhancing devices, a growing number of patents and also hundreds of companies are marketing thermal products ranging from enhanced tubes to complete set of thermal systems with integrated improved technology. The considerations for the saving of energy, materials, and space in the design along with cost incentives have led to producing heat exchanger equipment with more efficiency.

2 Literature Review

Dittus and Boelter [1] experimented using nano-fluids in heat exchanger and found that it improves the heat transfer rate and also reduces fuel consumption and weight. To further enhance the heat transfer process in the tube a twisted ribbon inclusion

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This is to certify that Dr./Prof./Mr./Ms G.SURESH KUMAR of PAAVAI ENGINEERING COLLEGE Participated and presented a paper entitled ELECTRICITY GENERATION BY HOT GASES in International Conference on Adaptive Technologies for Sustainable Growth (ICATS-2021) organized by Paavai Engineering College on 20th October 2021.

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(54) Title of the invention : DROWSINESS DETECTION IN AUTOMOTIVE VEHICLES

(51) International classification :G08B0021060000, A61B0005180000, B60K0028060000, A61B0005160000, A61K0036730000
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(57) Abstract :

Drowsiness Using a microcontroller and a Raspberry Pi, detection in motor vehicles focuses on anomalous behaviour displayed by the driver. Sleepiness will be detected by the framework within a few seconds. For the detection of tiredness, computer vision-based ideas have been applied. When the driver falls asleep, the mechanism activates, and the car is exposed to braking motion. When the eyes are found, the design works perfectly, and it even works in encompassing lighting circumstances.

No. of Pages : 9 No. of Claims : 6

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(19) INDIA

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(54) Title of the invention : ELECTRICAL ENERGY STORAGE USING LIGHT SOURCE

(51) International classification

:H01M0008180000, H02J0007350000, H02S0020210000, G08B0017000000, B60Q0001140000

(86) International Application No
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(57) Abstract :

Now a day's electricity is mostly consumed by everyone. The usage of electricity is increased year by year. By these days we can see road side lights in everywhere, but it's difficult to take this facility to everywhere. And a huge amount of electricity is consumed for the road lights. This can be over whelmed by Electrical energy storage using light source. By this method the electricity can be produced using the headlight of the vehicles. Here we are using 6V solar panel. The solar panel is kept in the way of the light, and it absorbs the heat of the light emitted from the headlights of the vehicles, and produces the electricity. Produced electricity is pass through the charger controller, it indicates the output and transmit electricity to the battery storage or to the Output source. By using this we can reduce the cost that spends to the transportation of the electricity. The maintenance cost is very low compared to the normal streetlights.

No. of Pages : 9 No. of Claims : 4

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(19) INDIA

(22) Date of filing of Application :09/12/2021

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(54) Title of the invention : AQUATIC DETECTION AND RESEARCH TECHNOLOGY

(51) International classification :A01K0063000000, G01S0015880000, A01K0063040000, A01K0061900000, G01S0013931000
(86) International Application No :PCT//
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(62) Divisional to Application Number :NA
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(57) Abstract :

Robotic fish is mainly designed to save the lives of fishers who accidently cross the International sea border by warning them using speakers. It works similar like a radar by emitting and receiving ultrasonics waves to detect the distance of objects. It also has other uses too. The fish can be move in all directions through manual control by RF transmitters and receivers. Fish can also identify the missing aircraft parts in deep sea water. It is identified by using a camera in it. We analyze the sea resources and wealth in deep sea water by this fish and later through manual help we further research.

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(19) INDIA

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(54) Title of the invention : FINGERPRINT BASED SECURE VOTING SYSTEM USING IOT

(51) International classification :G07C0013000000, G06F0021320000, G06Q0050260000, G06K0009000000, H04L0009320000
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(57) Abstract :

India's largest democracy is a lot of problems in the elections. Votes, voting machines, vote, recognition, are scandals, across the churches, has been announced a lot of controversy. The elections make a fundamental contribution to the Democratic government. To choose from the election leaders and choose their fortunes. Therefore, the voting process should be released from contradictions. Voting is an effective way for citizens of democratic nations such as India to cast their ballots. This is usually accomplished by heading to the polls. Electronic voting machines have become more widely used due to technology advancements. A voting machine based on IoT with fingerprint verification is discussed in this article. Using fingerprint verification to ensure voting is secure and to prevent malpractice is the main objective of this project. Information about the voter is stored in our database along with the fingerprint. The system checks the Aadhar number of the user if the fingerprint matches with the stored fingerprint, and, if authenticated, it checks if the user has cast more than on the message Matching failed will appear if the fingerprint is not accurate, and the message Aadhar not match will appear if the Aadhar number is incorrect. Voting can be done in the voter's native language and the results can be viewed in things peak. This project relies on the Arduino Uno to control the motors. An authentication method using fingerprints is used. Fingerprints differ at least slightly from one another. Already voted messages are displayed when a malpractice occurs. Programming the board is done using the Arduino IDE, and the ballot card and results are stored in the cloud. A malpractice alert is sent from the system and only authorized voters can cast their votes. Citizens' right to vote is protected and fair elections are guaranteed in this project.

No. of Pages : 5 No. of Claims : 5

(54) Title of the invention : WOMENS SAFETY LOCATION TRACKING SYSTEM

<p>(51) International classification</p> <p>(31) Priority Document No</p> <p>(32) Priority Date</p> <p>(33) Name of priority country</p> <p>(86) International Application No</p> <p>Filing Date</p> <p>(87) International Publication No</p> <p>(61) Patent of Addition to Application Number</p> <p>Filing Date</p> <p>(62) Divisional to Application Number</p> <p>Filing Date</p>	<p>(71)Name of Applicant :</p> <p>1)Kaviyaraj R Address of Applicant :5/249, RMK Nagar, 3rd Street, New Dharapuram Road, Palani. Tamil Nadu India</p> <p>2)Dr.G.BALAJI</p> <p>3)Mr.S.RATHINAVEL</p> <p>4)Dr.A.RATHINAM</p> <p>5)Mr.A.P.SIVASUBRAMANIAM</p> <p>6)Dr.D.R.P.RAJARATHNAM</p> <p>7)Mrs.S.SUGANYA</p> <p>8)Dr.G.RAJA</p> <p>9)Dr. K SUNDARA MURTHY</p> <p>10)Dr.R.PUSHPAVALLI</p> <p>11)Kakirala Durga Bhavani</p> <p>(72)Name of Inventor :</p> <p>1)Dr.G.BALAJI</p> <p>2)Mr.S.RATHINAVEL</p> <p>3)Dr.A.RATHINAM</p> <p>4)Mr.A.P.SIVASUBRAMANIAM</p> <p>5)Dr.D.R.P.RAJARATHNAM</p> <p>6)Mrs.S.SUGANYA</p> <p>7)Dr.G.RAJA</p> <p>8)Dr. K SUNDARA MURTHY</p> <p>9)Dr.R.PUSHPAVALLI</p> <p>10)Kakirala Durga Bhavani</p> <p>11)Kaviyaraj R</p>
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(57) Abstract :

Today in the current global scenario, facing many problems like women harassment. Women safety has always been an issue even in these modern times with so much advancement in technology. Women are not safe anywhere and are most vulnerable when traveling alone into lonely roads and deserted places. Mostly women and children are facing much harassment from the societies. The unlawful activities against ladies and children have been increasing significantly. The proposed device™s form factor is too tiny to carry out easily at anywhere and anytime. Women tracking system is an app that can track and monitor the location. The aim of the project is to create a system to allow the parents to keep track of their location. However, with the women tracking system the parent can track and monitor their women location in just a simple app when the parent is in office. It is a simple android application used mainly for women safety purpose, but also for child safety too. It focuses on one of the important problems of society that is eve teasing. There are many existing apps and devices for women security via smart phones. Though the smart phones have increased rapidly, it is not possible to have the phone all the time in our hand to make a call or click on it. So here we introduced a new technique via hand bands. The device consists of a battery, regulator, NodeMCU, adaptor, switch. In this project, when women senses danger she has to hold ON the trigger of the device. The device features the Plug & Play • functionalities, which means used a one button to operate the entire device. Once the device is activated, it tracks the current location and sends message using blink application. When women is in danger and in need of self-defense then can press the switch which is allotted to here. By activated the entire system will be activated then immediately a message will be sent to this blink application mobile person with location.

No. of Pages : 5 No. of Claims : 4



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DEVELOPMENT AND VALIDATION OF MULTICOMPONENT TRANSDERMAL PATCHES

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Abstract—Transdermal drug delivery system involves administration of drug through layers of skin which helps to overcome the troubles of oral route. Transdermal patches are medicated adhesive patches that are placed on the skin to provide prolonged drug release into the systemic circulation. The bioavailability of drugs delivered through transdermal patches are high as it doesn't meet first pass metabolism and gastrointestinal degradation which serves as the biggest trump card than other routes. The focus of this project is to combine three drugs namely diclofenac, methyl salicylate and capsaicin to develop transdermal patches. The process of developing transdermal patches is evident and they are validated for the efficacy, safety, quality and toxicity of the drugs in the developed transdermal patches. These formulated patches are qualitatively and quantitatively validated and characterized using UV-Visible spectroscopy. The formulated patches are expected to treat multiple analgesic complications.

Keywords—Transdermal patches, analgesics, diclofenac, methyl salicylate, capsaicin, NSAIDs, UV-Visible Spectroscopy, dissolution apparatus.

I. INTRODUCTION

Transdermal Drug Delivery System (TDDS) is a method of applying drug formulation onto healthy skin for painless delivery of drugs. The first layer through which the drug initially penetrates is stratum corneum. And then it travels through the deeper

layers of epidermis to dermis. The drug doesn't get accumulated in the dermal layer. The drug becomes available for systemic absorption via the dermal micro-circulation when it reaches the dermal layer. ^[1]

Transdermal patches refer to topical application that delivers drugs to healthy intact skin either for localized treatment of tissues underlying the skin for a systemic therapy. Transdermal absorption occurs as a slow process of diffusion which is driven by the concentration gradient between the high concentration in the delivery system and the prevailing zero concentration in the skin.

Transdermal patches can be used to delivery wide range of potential drugs including steroids, anti-fungal, anti-bacterial, interferon, local anesthetics and like. The main aim of the transdermal patches is to improve the release of less soluble drugs. As skin is considered to be the safest route for administration of drugs, these patches have the highest scope to provide the prolonged release of drugs into the systemic circulation. There are also researches being undergoing to improve the safety and efficacy of the patches.

The pros of transdermal patches are even for drugs with shortest half-life, these patches aid continuous release of active pharmaceutical

FORMULATION AND IN-VITRO EVALUTION OF OSMATIC DRUG DELIVERY SYSTEM OF ACEBUTOLOL

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Abstract: The drug delivery systems are used to supply the healing agent to the chosen target. Because drug release from these systems are loose from pH and different frame parameters on a huge scale and it's far feasible to quantify the release traits with the aid of using enhancing drug properties and system. Patient compliance is once more compromised with the extended frequency of administration. Therefore, the call for has extended for managed transport structures which could acquire particularly regular blood concentrations of drug over a extended length of time. The term controlled release consists of modulated launch structures in addition to zero order release systems. The crucial milestone in oral drug delivery system improvement exist whilst the OSMOTIC DRUG DELIVERY SYSTEM (ODDS) changed into discovered, a brand new and incredibly versatile system. These structures offer real therapeutic control despite now no longer imparting constant drug concentrations. Although now no longer all tablets to be had for treating special sicknesses require such particular launch rates, once-every day. Formulations primarily based totally osmotic concepts are gambling an increasing number of important position in enhancing affected person compliance. Therefore, maximum of the presently advertised products are primarily based totally on tablets utilized in long-time period treatment plans for diabetes, hypertension, attention-deficit disorder, and different persistent disorder states. Besides oral osmotic transport structures, implants that work on osmotic principles are promising for transport of a huge form of molecules with a particular rate over a long period of time.

Keywords—*Acebutolol, osmosis, controlled drug delivery system, osmotic pressure, osmogenes, osmotic pump.*

I. INTRODUCTION

Oral drug delivery is the maximum favored and convenient choice because the oral course offers most active surface area amongst all drug transport device for administration of various drugs. In traditional oral drug transport systems, there's very little control over release of the drug and powerful attention on the target site may be

Finished with the aid of using irregular administration of excessive doses. Uncontrolled fast release of drug may also cause local gastro intestinal or systemic toxicity. Oral osmotic-ally controlled release (CR) delivery systems make the most osmotic pressure for controlled delivery of energetic agents. The key distinguishing function of osmotic drug delivery systems (in comparison with different technology used in controlled-release formulations) is that they release drug at a rate this is independent of the pH and hydrodynamics of the external dissolution medium. The end

result is a strong dosage form for which the in-vivo rate of drug release is comparable to the in-vitro rate, generating an extremely good in-vitro/in-vivo correlation. Another key benefit of the present osmotic systems is that they are applicable to drugs with a large range of aqueous solubility.

II. MATERIALS

A. Semipermeable membrane

Since the membrane in osmotic systems is semipermeable in nature, any polymer this is permeable to water however impermeable to solute may be selected. Cellulose acetate is a usually hired semipermeable polymer for the guidance of osmotic pumps. Apart from cellulose derivatives, a few different polymers together with agar acetate, amylose triacetate, betaglucan acetate, poly(vinyl methyl) ether copolymers, poly(orthoesters), poly acetyls and selectively permeable poly(glycolic acid), poly(lactic acid) derivatives, it could be used as semipermeable film-forming materials. The permeability is the crucial standards for the choice of semipermeable polymers

B. Hydrophilic and Hydrophobic Polymers

The notably water soluble compounds may be co entrapped in hydrophobic matrices and reasonably water soluble compounds may be co entrapped in hydrophilic matrices to attain extra managed release. Generally, combinations of each hydrophilic and hydrophobic polymers were used with inside the improvement of osmotic pumps of water-soluble drugs. The choice is primarily based totally at the solubility of the drug in addition to the quantity and rate of drug to be released from the pump. The polymers are of both swellable and non swellable nature. Mostly, swellable polymers are used for the pumps containing fairly water-soluble drugs.

C. Wicking agent

A wicking agent is described as a material with the capacity to attract water into the porous network of a transport device. The wicking agents are the agents which assist to increase.

Enhance the rate of medicaments released from the opening of the medicament.

PREPARATION OF DETOXIFYING AND SKIN WHITENING FACE CREAM

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ABSTRACT— Cosmetics are either a mixture of chemical compounds derived from natural sources, or manufactured synthetically. Cosmetics have different purposes. Those designed for personal care and skin care can be used to cleanse or protect the body or skin. Widely used skin whitening agents are hydroquinone and kojic acid which causes skin irritation, burning, itching are the most side effects of using these chemicals. Alternatively we use arbutin derived from *Arctostaphylos uva-ursi* in our project. Arbutin is a compound which is generally safe for all skin types. Arbutin may reduce the degree of darkening of the skin after sun exposure by blocking the production of tyrosinase. While other skin lightening agents can dry and irritate the skin, arbutin is less irritating. Detoxifying our skin involves removing as many impurities, toxins, pollutants and dead skin cells as possible to restore, treat, brighten, hydrate and soothe our skin to its optimum state. To remove toxins from our skin *camellia sinensis* is used. The alternative natural arbutin are combined with *camellia sinensis* helps to prevent the skin from impurities. Tensile Strength Tester method is useful for determining the tensile property of the excised stratum corneum of the skin. It provides information on the water content present in stratum corneum and also acts as a screening device for moisturizing ingredients. The stress or strain characteristics of stratum corneum obtained from various sources can be studied by using this instrument (i.e., tensile strength tester), and it also helps in knowing effects on stratum corneum passed through various treatments. Compared to other products, our project focuses on producing chemical free and cost effective detoxifying skin whitening face cream.

Keywords—Arbutin, Green tea extracts, propylene glycol

I. INTRODUCTION

Effective skin whitening agents are derived from plants. Skin color is primarily determined by the content of an epidermal pigment called melanin. It is being secreted by

Melanocyte cells in basal layer of epidermis. Detoxifying our skin involves removing as many impurities, toxins, pollutants and dead skin cells as possible to restore, treat, brighten, hydrate and soothe our skin to its optimum state. Skin whitening cream is formulated with pure herbal and natural components that nourish and protect our skin. White pigmentation and treatment of skin discoloration is mostly based on inhibition of enzyme tyrosinase which is responsible for melanin synthesis. Skin whitening cream has herbal extracts that exhibit potent tyrosinase without any side effects, as it developed with natural control ingredients such as propylene glycol, Arbutin, green tea extract. Melanin as a fungal metabolic product. All these naturally derived ingredients are used to prevent the skin from impurities, toxins, pollutants etc. Green tea extract has been shown to help prevent and treat a number of skin conditions. Arbutin is molecule extracted from bearberry plant that inhibits the formation of melanin. Detoxifying effect and Whitening effects are due to *Camellia sinensis* and are to *Staphylos uva-visa*. This product helps to repair previous superficial damage to skin.

A. Arbutin

Alpha-arbutins (4-hydroxyphenol β -D-glycopyranoside) and beta-arbutins (4-Hydroxyphenol α -D-glycopyranoside) are glycoside derivatives of hydroquinone. Derived compound occurs naturally in many plants of wheat, cranberry and bearberry. It is an efficient agent for the treatment of hyper pigmentation disorders and shows less melanocyte cytotoxicity than hydroquinone. An addition, it is kapha, Beneficial for the treatment of urinary tract infections, Relieves cough, and prevents asthma. In recent years the need for arbutin has led to the development of these variations. Profit fast. Arbutin is a tyrosinase inhibitor, which combines with its important copper ion and thus inhibits the tyrosine enzyme and suppresses tautomerization dopachrome to 5,6-dihydroxyindole-2-carboxylic acid (DHICA). Many analytical methods for the measurement of arbutin in

MULTIFUNCTIONAL EDIBLE STRAW

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Abstract—Plastics a major problem in our environment, though we ban plastics in current scenario. Straws account for roughly 0.03% of plastic waste in the ocean. Worldwide more than 1000 million plastic straws are used to serve environmental issues. This project is concerned with replacement of plastic straws with natural edible straw. The main objective of this project is to extract starch from *Dioscorea alata* by sedimentation method, the starch extracted from this method is subjected to optimization and production of edible straw. The selected ingredients are *Dioscorea alata*, gelatin, icing sugar, carboxymethyl cellulose and glycerin. The paste preparation was the process where specific amount of stabilizer, gelling agent and humectant were mixed through kneader. The paste being shaped through a straw shaping mold process before placing them in to drying oven. This edible straw is now analysed for its stability, nutrition analysis, antioxidant content, DPPH Bio degradability test, Moisture absorption test, Toxicity test. These edible straws are flavored and designed for the sustainability of the future. It can be used as post snacks. Their powerful antioxidants may help reduce your blood pressure and blood sugar levels and also versatile with a vibrant color. It can act as cancer deterrent. It helps to increase the production of red blood cells in the body.

Keywords— Purple yam, Anthocyanins, Edible straw, Gelatin and glycerin, Validity test, Proximate analysis.

I. INTRODUCTION

A drinking straw is an instrument that's intended to carry the contents of a libation to one's mouth. Globally usage of straw is about 500 million. Disposal of plastic wastes in water bodies shackle waterways, oceans, seas etc. Plastic usually takes so much time to decompose which last from 400-1000 years, some of the plastic types remain non-degradable as well. While producing and recycling plastics huge amount of toxic gases were produced which cause air, water and land pollution. Plastic straws are made up of a type of plastic manufactured from petroleum, known as polypropylene. The chemical substance in the plastic straws when exposed to heat and acidic beverages, leads to outbreak of chemicals that could affect our estrogen level. Micro plastic ingested by fish affect human is unknown. The straws are wrapped into unbleached paper – a nature friendly material. Drinking from these straws is a veritably special experience. Disadvantages of plastic straws are the deaths of marine life which have swallowed plastics plant in the ocean

debris. These non-biodegradable straws break into microplastic consumed by fishes and shellfish on our regale plates. Worldwide, further than 1000 million plastic straws are used diurnal leads to severe environmental issues. Combined consumption of the EUROPE and the United States alone quantities to over 200 billion every time. Drinking straws constitute roughly 4 of plastic waste, but are among the particulars most generally plant on all the submarine eco system leads to hang to marine and fresh water foliage and fauna. straws regard for roughly 0.03 chance of plastic waste in the ocean.



Straws are generally made from plastics but environmental enterprises and new regulation has led to rise in applicable and biodegradable straws. A simple way to reduce the usage of plastic straw is not to use it or else having our own reusable or bio-degradable straws. The natural straw is an environmentally friendly volition to conventional plastic straws. The straws are hand made without use of any chemicals. India- grounded Nom has developed flour- grounded, comestible straws. The straws are part of Nom's larger charge to offer consumers easy ways to drop waste. The Nom straws offer an volition to traditional straws. Also, unlike other eco-friendly straws, the Nom interpretation is fully desolate-free. Made from wheat and rice flours, vegetable canvas, sugar and flavoring, the straw is fully comestible. This project is concerned with preparation of edible eco-friendly straw from purple yam. The comestible straw from *Dioscorea alata* could help reduce the quantum of plastic in abysses and save millions of fish and other marine life precluding the preface of poisons in the mortal food chain. It should be considered also post-drink snack and instantly a functional food when adding vitamins and nutrients. The edible straw from *Dioscorea alata* could help reduce the amount of plastic in oceans and save millions of fish and

INSILICO INVESTIGATION OF ANTI-BIOFILM ACTIVITY OF CYMBOPOGAN CITRATUS EXTRACT AGAINST METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS

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Abstract— *Cymbopogon citratus* is a tropical, clump forming evergreen grass with richly aromatic lemon fragrance which is referred to as lemongrass. *Staphylococcus aureus*, a bacterial pathogen that causes human infections with produces an encapsulation matrix known as biofilm, which enhances its virulence property by acting as an encapsulation matrix. Screening of phytocomponents from lemon grass will be done using the Lipinski's rule of five. Molecular docking approach can be utilized for the selection of the lead molecules using the Binding Energy scores and by studying the stability of the protein-ligand interactions with the assistance of Autodockvina.

Keywords— *Cymbopogon citratus*, Antibacterial activity, Molecular docking.

I. INTRODUCTION

Cymbopogon citratus is a tropical, clump forming evergreen grass with richly aromatic lemon fragrance. It is available throughout the world, and it is commonly referred to as lemongrass [1]. Freshly cut and partially dried leaves are used medicinally and are the source of the essential oil [2]. Lemongrass is a folk remedy for coughs, gingivitis, ophthalmic and pneumonia[3]. Lemon grass has numerous bioactive phytoconstituents like myrcene, citronellal, citronellol, and geraniol with various pharmacological activities such as cytotoxic and antibacterial activity[4]. *Staphylococcus aureus*, a bacterial pathogen that causes a wide variety of human infections, either through community-driven or hospital-driven. Methicillin resistant *S.aureus* produces an exopolysaccharide matrix known as biofilm, which enhances its virulence property by acting as an encapsulation matrix[5]. The self-assembled biofilm enhances the ability of *S.aureus* to acquire resistance against broad-spectrum of antibiotics including methicillin, thereby making the conventional antibiotic treatment ineffective[6]

The Sortase A (SrtA) enzyme from *S. aureus* is a prototypical member of the sortase family. *S. aureus* strains lacking the SrtA gene are unable to retain and display LPxTG proteins at the cell surface. As a consequence, SrtA mutant strains are defective in the establishment of acute infections [7]. Usage of natural compounds for restraining the activity of Srt A rather than using the multiple drugs helps in reducing the multi-drug resistant[8,9] Screening of phytocomponents from lemon grass will be done using the Lipinski's rule of five [10]. Molecular docking approach can be utilized for the selection of the lead molecules using the Binding Energy scores and by studying the stability of the protein-ligand interactions with the assistance of Autodock vina[11]. The docking studies predicted that the constituent molecules of *C.citratus* possess more capability as inhibitors as compared to established drug in the pharmaceutical industries. Experimental study will also be conducted to validate the significance of SrtA in the anti-biofilm activity using expression studies. As a result of this study, we can develop a novel inhibitor for biofilm producing methicillin resistant *S.aureus*, thus with the help of in-silico models we can decipher the mode of action of the potential lead compounds on SrtA

II. IN SILICO PREDICTION OF BIOACTIVITY AND MOLECULAR DOCKING STUDIES

Bioactivity potential of the major chemical constituent presents in the *Cymbopogon citratus* was predicted with the PASS(Prediction of activity spectra for substances) after prediction of lipinski's rule of 5. Molecular docking studies of the selected phytocompounds was performed with Autodock vina(Version 1.1) using an enzyme srtA with this docking studies we would be able to decode the binding affinity of screened phytocomponents with the target (SrtA). The SrtA proteins were retrieved from protein data bank (<https://www.rcsb.org/>) in PDB format to determine crystal structure of protein. Lipinski's rule (rule of five, RO5) was used to evaluate the drug-likeness property. A molecule to be

Vitamins and Microencapsulation

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Abstract - The continuous increase in the world's population made a drastic change in the annual food production. Bringing up technology and innovations out of the labs helps to tackle the above food challenge. This food challenge includes providing nutritious food without any loss. When coming to talk about nutritious supplement of food, Vitamins is one of the important nutrients required for human growth and development. Vitamins are essential for human health, growth, development, reproduction and maintenance in human body. Basic introduction on vitamins, thirteen essential vitamins its functions, deficiencies and the method of preventing loss of vitamins have been discussed here.

Keywords: Vitamins, microencapsulation, vitamin C, Spray drying.

I. INTRODUCTION

The Polish biochemist Casimir Funk coined the term 'vitamin' from 'vitamine' in 1912. The name vitamin comes from "Vita" means 'life' and 'amin' because it was believed that all types of vitamins contain the chemical amine structure. Vitamins are defined as organic compound distinct from fat, carbohydrate and proteins. Vitamins are categorized under micro nutrients because they are needed in only very small quantity. Each vitamin has chemical names, but they are usually referred by letters.

A. Classification of Vitamins

Vitamins are categorized into two types

- Water soluble vitamins
- Fat soluble vitamins

Water Soluble Vitamins

Water soluble vitamins are soluble in water. They are absorbed in tissues since they are not stored in body. The excess number of water-soluble vitamins in the body are excreted as urine. All B vitamins (Thiamine, Riboflavin, Niacin, Pantothenic acid, Pyridoxine, Biotin, Folic acid, Cobalamin, Ascorbic acid) and vitamin C are categorized under water soluble vitamins.

Fat Soluble Vitamins

Fat soluble vitamins are those that are soluble in lipids (Fats). These are absorbed by lactase in small intestine through chylomicrons since they cannot be absorbed directly by the blood stream they are stored in the body's tissue and in the liver. Fat soluble vitamins includes A, D, E & K.



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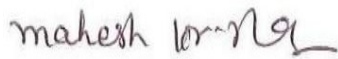
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Vitamins and Microencapsulation

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S. Anandamurugan, R. Deenadhayalan, B. Venkatesan, S. Sakthivel & S. Rajesh

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of PAAVAI ENGINEERING COLLEGE has presented the paper

titled HARNESSING ARTIFICIAL INTELLIGENCE CAPABILITIES IN CYBER SECURITY

in AICTE sponsored International online Conference on "Artificial Intelligence & Smart Computing (ICAISC)" organised by the Department of Computer Science and Engineering, Narsimha Reddy Engineering College, Secunderabad held during 22-23, October 2021.

Dr.R.Rajagopal
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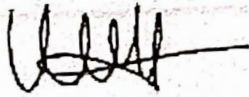
This is certify that Mr.P.Muthusamy, ASSOCIATE PROFESSOR / IT

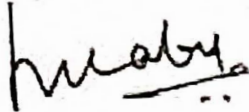
of PAAVAI ENGINEERING COLLEGE has presented the paper

titled Intelligent Assistive System for visually challenged people

in AICTE sponsored International online Conference on "Artificial Intelligence & Smart Computing (ICAISC)" organised by the Department of Computer Science and Engineering, Narsimha Reddy Engineering College, Secunderabad held during 22-23, October 2021.


Dr. R. Rajagopal
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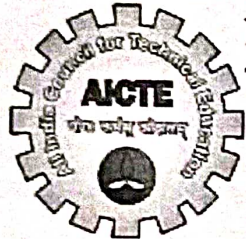

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This is certify that MR.B.VENKATESAN, ASSOCIATE PROFESSOR / IT

of PAAVAI ENGINEERING COLLEGE

has presented the paper

titled INTELLIGENT ASSISTIVE SYSTEM FOR VISUALLY CHALLENGED PEOPLE

in AICTE sponsored International online Conference on "Artificial Intelligence & Smart Computing (ICAISC)" organised by the Department of Computer Science and Engineering, Narsimha Reddy Engineering College, Secunderabad held during 22-23, October 2021.

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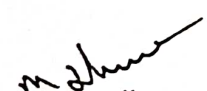
Dr./ Mr. /Ms. **G1. MADASAMY RAJA** of


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has presented in the

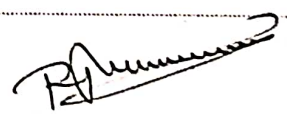
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Trichy, Tamilnadu, India.

He / She has presented a paper entitled **A TECHNIQUE TO TRANSFERING DATA
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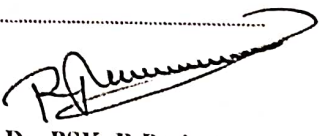
Dr./ Mr. /Ms. GI. MADASAMY RAJA of
PAAVAI ENGINEERING COLLEGE has presented in the
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Trichy, Tamilnadu, India.

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HOD(ECE)


Dr. J. Yogapriya
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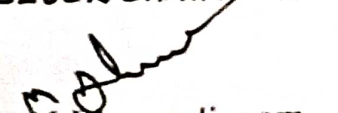
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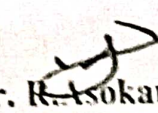
Dr./ Mr. /Ms. M. PUSHPALATHA of
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He / She has presented a paper entitled FOOD SAFETY TRANSPERANCY AND TRACEABILITY SYSTEM BASED ON MACHINE LEARNING ENABLED BY BLOCK CHAIN TECHNOLOGY.


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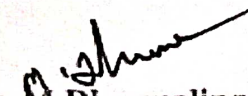
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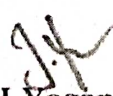
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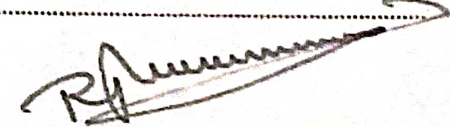
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He / She has presented a paper entitled RFID BASED ATTENDANCE
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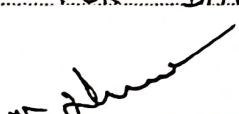
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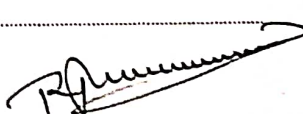
has presented in the
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from 22nd to 23rd October 2021 at Kongunadu College of Engineering and Technology (Autonomous),
Trichy, Tamilnadu, India.

He / She has presented a paper entitled TWO LEVEL AUTHENTICATION
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on 1st June, 2022 organized by Department of Computer Science and Engineering, Adhiparasakthi Engineering

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Dr.A.Kumaravel
Conference Chair

Dr. R. Gopalakrishnan

Dr.R.Gopalakrishnan
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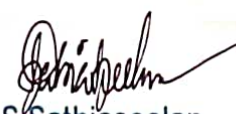
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has participated / presented a Paper entitled Dynamic Allocation For Big Data
Center Using Live Migration of Virtual Machine.
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And classification Using DEEP LEARNING ALGORITHM.
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has presented a paper titled BLOCKCHAIN BASED INVOICE FACTORING AND SECURE CREDIT BASED TRADING in the 7th International Conference MEEMIC 2021 held on 12th June, 2021.

Prof.Muhammadu Sathik Raja
Convenor & HOD
Department of Medical Electronics
Sengunthar College of Engineering

Dr.R.Satishkumar
IIC-President & Principal
Sengunthar College of Engineering

Prof.A.Baladhandapani
Secretary & Correspondent
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Chennai

**International Conference on Science,
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CERTIFICATE



This is to Certify that Dr./Mr./Mrs.

DEEPA. B

has presented a paper entitled

**MULTI DISEASE PREDICTION WEB APP DEVELOPMENT USING MACHINE
LEARNING**

in Virtual 3rd International Conference on Science, Engineering and Technology
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Denadhayan. R

Paavai Engineering College, Namakkal

for presenting a paper entitled

**Traffic Control Management for Vehicle to Vehicle
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Dr. A. Kumaravel

Dr. A. Kumaravel
Conference Chair

Dr. R. Gopalakrishnan

Dr. R. Gopalakrishnan
Principal