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Paper Title: Load Balancing in Software Defined Networking

Co-authors: Keerthana Bhat, Chaitra C Kamath, Rukmini Bhat B

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Load Balancing in Software Defined Networking

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Abstract— In this current era, usage of the internet is increasing drastically. Digitization has led to high network traffic which makes the overall management of network highly complex and expensive as traditional networks are non programmable. As a solution for these issues in traditional networks, Software Defined Network (SDN) has been introduced. SDN decouples the data plane and control plane there by making the network programmable. SDN allows network administrators to manage the network services by separating the control plane which is called as the brain of the network by data plane where packet forwarding is done. Load balancing in SDN is done to ensure effective management of resources as per client's request. Some of the load balancing parameters are throughput, transaction rate, response time and the algorithm used. In this paper, the need for load balancing in SDN is discussed and for load balancing we have used the least connection algorithm with Dijkstra's algorithm.

Keywords — Software Defined Network (SDN), load balancing algorithms, openflow, controllers.

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Paper Title: A Review on Land Use Land Cover Classification of Satellite Images using Deep Learning Approach

Co-authors: Harshitha D N, Nagaraj Bhat, Jayalakshmi, Pooja

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A Review on Land Use Land Cover Classification of Satellite Images using Deep Learning Approach

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Abstract— Land cover and land use and its change is the most important, as well as the most widely researched topic in remote sensing. Land cover and land use have been used extensively to derive human and climate activities. The deep neural network today is playing a very important role in the classification of images, which is required in some popular applications like Urban planning. This paper focuses mainly on a deep learning approach i.e. especially the deep convolution neural network (DCNN) for the classification of photogenic images i.e., acquired from mostly satellites. So here in this paper, the different architectures or neural networks of DCNN like Alexnet, VGG, Cascaded cross channelPooling, etc., how these architectures work better in the classification of satellite images are discussed. The result of this architectures is compared with other classification algorithms like Support vector machine and maximum likelihood classification. One advantageous result that is found from this study is that some of the architectures like cross channel pooling and average pooling with DCNN can automatically construct the training dataset and classify images. And finally, the accuracy is observed between the different architectures of DCNN compared and the accuracy of some of this architecture is compared with SVM, MLC, and RF.

Keywords — Deep Learning, Satellite Images, Machine Learning

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Paper Title: **Integrated Solid Waste Management - A Case Study on Shirva Panchayat**

Co-authors: Charithra, Dhanik S Shetty, Nagarjuna SG, **Deepika B V**

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INTEGRATED SOLID WASTE MANAGEMENT – A CASE STUDY ON SHIRVA PANCHAYAT

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Abstract— Solid waste management is of prominent concern and very much required to lead a healthy life. Solid waste management and handling rules are about the systematic method for the collection, segregation, treatment, and disposal of solid waste. In the present study, Shirva panchayat is considered as a study area for the proposal of solid waste management. Shirva is a village situated in the Udupi district of Karnataka State which falls in India. The geographical coordinate's latitude and longitude of Shirva are 13.357215 and 74.798355 respectively. The total area of Shirva is 32km2 and it is the second biggest village by area in the sub district which is facing problems in waste management. The Shirva Panchayat indicates that there is an unpredictable rise in the population intern the solid waste generation is also being increased. Unscientific handling due to negligence in collecting waste, inadequate standards of transportation, storage, treatment and disposal which causes risk to surroundings, the health of people, and social issues. There is no systematic way of managing solid waste. The present study gives the methodology for well- organized collection, treatment, and disposal of solid waste for the panchayat.

Key Words: Solid waste management; collection; treatment; disposal

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This is to certify that Mr. Sharun Mendonca of SJEC, Mangalore has presented a technical paper in the International Conference on "**Emerging Trends in Science and Engineering (ICETSE-2020)**" held at Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi on 10th and 11th, July 2020.

Paper Title: **Experimental Analysis of Influence of Injection Timing on Compression Ignition Engine with Blend of Biodiesel and Nanoparticles**

Co-authors: Thirumaleshwara Bhat, Ravikantha Prabhu, Rudolf Dsouza

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Experimental Analysis of Influence of Injection Timing on Compression Ignition Engine with Blend of Biodiesel and Nanoparticles

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ABSTRACT

Discovery in nanoparticles has opened up new options in fuel additive. The conventional diesel fuel blended with biodiesel is dispersed in aqueous aluminium oxide nanoparticles using an Ultrasonicator. The nanoparticles used are in the size range of 0-50nm. The engine performance and emission characteristics are measured for 3 different dosing levels of aqueous aluminium oxide nanoparticles with simarouba biodiesel blend. Injection timing plays an important role in CI engine performance and emission characteristics. Therefore, the influence of injection timing is also studied experimentally. The delay in injection timing reduces most of the emissions along with slight increase in performance characteristics.

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Paper Title: **Design and fabrication of Techno-Economical Incinerator using Solar Energy**

Co-authors: Rakshith Shetty R, Rajesh KS, Shreyas, Mallya Ananth Mohan

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DESIGN AND FABRICATION OF TECHNO-ECONOMICAL INCINERATOR USING SOLAR ENERGY

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Human activities create waste, and it's the way these wastes are handled, stored, collected and disposed of, which may pose risks to the environment and to public health. The management of solid waste is a crucial concern in developing and emergency conditions, e.g. those of an assembly or gathering, where solid waste management infrastructure and services are far away from achieving basic standards in terms of hygiene, efficient collection and disposal. Heaps of sanitary napkins with an outsized amount of disease causing bacteria on them pose a big threat to the hygiene within the surrounding area. By using the Incinerator, we can avoid the spreading of pathogenic diseases which is caused due to normally disposed napkins. A Solar Incinerator is a waste disposal machine used to burn the used sanitary pads and used diapers completely using solar energy. By using Fresnel lens as solar concentrator it is possible to generate temperature up to 800 degrees Celsius which is enough to dispose the sanitary wastes and also disintegrate the toxic flue gases which are formed due to Incineration.

Keywords: Fresnel Lens, Incinerator, Focal length.

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Paper Title: **Image Steganography using Sudoku: A Combined Approach**

Co-authors: Shreya Bhat, Shreekari, Rama Moorthy H

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Image Steganography using Sudoku: A Combined Approach

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Abstract— ATM (Automated Teller Machine) is an electronic telecommunication device that is used to perform financial transaction device that is used to perform financial transaction without need for human clerk or bank teller. ATMs extend traditional banking hours by dispatching cash and making other transaction available 24 hours a day. In ATM machines, the user is identified by inserting an ATM card and authentication is provided by the customer entering a PIN. The PIN provided to the customer is compared with recorded reference PIN number in the bank server. In the existing system, the user has to insert the card and the PIN number. If the PIN is correct, the system allows for the transaction. Otherwise, the system asks for the PIN again and it allows maximum of three times to enter it. After three trials the ATM card will get blocked. To reactivate the card user need to visit the bank and do the bank formalities, which is tedious and time consuming job. The proposed system to increasing the safe and security by introducing fingerprint system. The advantage of finger-scan technology is accuracy. By using fingerprint system many disadvantages are rapidly, initially we will store the fingerprint in the bank database. So, we have planned to implement such a system where in the worst case if user forgot his PIN number even after three attempts, he will be given another option where he can use his fingerprint to withdraw money. This will help in preventing misuse/blocking ATM cards.

Keywords — Automated Teller Machine, Fingerprint Identification

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Paper Title: A Survey On Human Activity Recognition

Co-authors: Aisiri , Dhanashree G K, Yashaswini Jogi

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A Survey On Human Activity Recognition

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Abstract:HumanActivityRecognitionisidentifyingthemovementortheactionsthatareperformed bythepersonbasedonsensordata.Movementsareoftentypicalactivitiesthatareperformed indoors,outdoorsandinvehicles.Recognitionofactivitiesisinresearchareaofhealth.Performance iscomputedbyusingK-nearestneighbours,supportvectormachine,naiveBayes,feedforward backwardpropagationandneuralnetwork.Theappearanceandmotionfeaturesareextractedusing theopenposelibrary.Introducedasigmabasedfeaturesforthebettercaptureofactivitythereby improve recognition accuracy and collected the accelerometer,magnetometerand gyroscope temperatureoftheuser'smobilephones.Activityperformedonbothindoorandoutdoorlocation. Andintroducedasigmabasedfeaturesforthebettercaptureofactivitytherebyimproverecognition accuracyandcollectedtheaccelerometer,magnetometerandgyroscope,temperatureoftheuser's mobile phones and arterialoxygen saturation sensor(spo2)data collected.There are fourAI algorithmsinthosethreedifferentalgorithmsforHumanActivityRecognitionusingmotionsensor. HumanActivityRecognitiontellsusaboutwalking,standing,runningandsoonandoneAcoustic SceneClassificationtotellaboutwhetherpersonsareindoor,outdoororanywhereyougobasedon environmentcapturedbymicrophone.

Keywords — Human Activity Recognition, Machine Learning

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Paper Title: **Hand Gesture Recognition System for Physically disabled or deaf and dumb**

Co-authors: Vijayatha Nayak, Tanushree Anchan, Sakshi V Kamath, Praveen M Naik

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Hand Gesture Recognition System For Physically Disabled/Deaf and Dumb

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Abstract— Physically disabled or deaf and dumb people are equally important as normal people of the society but they have not yet received the same opportunities as others in the society. Wherever the physically disabled people such as deaf and dumb wants to communicate, it was done through sign language which was difficult for a normal people to understand. So, it is very important for the normal people to figure out the sign language made by the disabled person through the hand gesture. Here the concentration is given to track the human hand gestures using natural human computer interface. Earlier there was no particular model for the betterment of the physically disabled persons or deaf and dumb. If they want to communicate, it was to be done by normal hand movements. Where it was very difficult for the other person to judge the real outcome and even it was very difficult to the person to convey. There are certain techniques being used to convey these messages. But there is no respective portable device which can be used by the people.

Keywords— Hand Gesture Recognition, Human Computer Interface

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Paper Title: Design and Numerical Analysis of Friction Stir Processing Tool for Magnesium Alloy Based Surface Composites

Co-authors: Dr.Thirumaleshwara Bhat

Dr. Balachandra Achar H V	**Dr. Sudarshan Rao**	**Dr. Thirumaleshwara Bhat**
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Design and Numerical Analysis of Friction Stir Processing Tool for Magnesium Alloy Based Surface Composites

Lingaraj Ritti1, Thirumaleshwara Bhat2,
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Abstract—Friction stir process is a solid-state process in which the grain refinement of the base material will take place below the recrystallization temperature. The surface composites are produced by mixing the reinforcement particles on the surface layer of the base material at a certain thickness by using a suitable reinforcement strategy which improves the surface properties of the composites. The success of the process depends on the tool shoulder design, and pin design. In the present work, an attempt has been made to design a suitable tool by using analytical models based on the torque capacity of the motor used in the Computerized milling machine. The tool shoulder diameter of 20 mm is obtained based on the yield strength of the tool material, and the taper pin average diameter of 4 mm is obtained based on the maximum shear strength of the tool material with suitable safety factor. The axial and transverse forces in the process are determined by an analytical method. The axial force-induced during the plunging phase is 28.7kN on the contact surface of the tool shoulder and in travelling phase the maximum transverse force-induced is 3kN at the pin side of the tool. The structural stability and the reliability of the tool are studied by structural and fatigue analysis using ANSYS software. The result shows that the negligible deformation and stresses induced during the process are less than the yield strength of the tool material, and the tool endure 14×103cylces of fatigue load-induced during the process.

Index Terms—Friction Stir Process (FSP), Tool, Magnesium Alloy, Structural and Fatigue analysis, ANSYS software

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Paper Title: Food wastage prevention and donation

Co-authors: Madhura

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Food Wastage Prevention And Donation

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Abstract— Our country facing some common problems like food wastage.it is very crucial as it develops our environmental and economic sustainability. To reduce this wastage of food we have introduced mobile application on android platform. This android mobile application helps to donate remaining foods and leftovers from restaurants, house and other mediums to the people who are in need of it.Our app allows users to register, login, view items, add items, add items to the cart, remove an item from the cart and log out. The user can add all donated food images and add them to the cart. Food-sharing mobile apps are becoming increasingly popular, but little is known about the new social configuration of people who use them, especially apps that serve as voluntary intermediaries in supply chains. This study focuses on longitudinal social network data from 54,913 food-sharing events in 9054 people and is 10 months and vasoactive. Current challenging theories of mutual sharing (mutuality, relative selectivity, tolerance and costly signaling) suggest that donor-recipient reprimanding and costly signaling are not sufficient. The findings have important implications for managers.

Keywords — App Development ,Android

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Paper Title: An Integrated User Interface as Farmer's Assistant System

Co-authors: Sangeetha P Nayak, Prathiksha P Shenoy, Shreya Rajesh, Priyanka

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An Integrated User Interface as Farmer's Assistant System

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Abstract— Agriculture is the science or an art of cultivating the soil, raising livestock, crops growing and harvesting. Agriculture is also a technique of producing land with higher productivity which is being utilized throughout the globe using many procedures with the help of some science and technology which is highly produced in daily life. Despite the fact that the mobile phones are being made use by individuals who are living in certain rural areas, nevertheless there are barely any similar applications for them to account their affairs to the government during the times when they face any problems or any several obstacles. There are many existing applications related to agriculture. These applications are used to solve problems of farmers such as finding the exact location, area of their land and to know further details about their land. After seeing all these applications our survey revealed that there is no such feature which provides farmers to lodge their agricultural issues and request funds from the government. Here the concept of geo tagging is used for capturing the exact location of destructed land. In this proposed methodology, the problems faced by the farmers during destruction of agricultural field are solved in an unique way. According to this methodology, the farmers can lodge their issues in this web application and they can request fund from the government whenever they face agricultural loss due to natural calamity.

Keywords — Geotag, Web Application System.

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Paper Title: Fabrication of Raw Cashew Nut Destoner

Co-authors: Mohammed Rayif, Adarsh Anand, Karthik V

Dr. Balachandra Achar H V
Convener

Dr. Sudarshan Rao
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Dr. Thirumaleshwara Bhat
Conference Chair

FABRICATION OF RAW CASHEW NUT DESTONER

Gurudeep KP1, Mohammed Rayif2, Adarsh Anand3 and Karthik V4

Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, Karnataka, India.

Abstract—Destoners find their application in the food processing sector and in the milling industry, but they are also used in the seed sector, in particular on products harvested close to the ground. They are used for the separation of dry granular material according to specific weight into two fractions. The goal is to eliminate heavy impurities such as stones, metal particles and other objects like coffee, grains or pulses. Here the Raw Cashew Nuts are washed with water, this separate's the raw cashew nuts from sand, stones, threads, metal pieces and dust. Dust is eliminated through a pre-dust removing hopper which has a rust proof stainless steel wire mesh tray for collecting dust. The stones get accumulated on a stone collector tank. An epoxy oxide primer coating is used for rust proofing. The project aims to increase the production rate and also the life expectancy of blades used in the cutting profile. It reduces the process time and cost of production. The systems used are safe, secure and easy to handle or operate, this leads to low human efforts.

***Index Terms*— Cutting profile, destoner, production rate, raw cashew nut.**

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Paper Title: Fabrication Of Pesticide Series Spraying Machine For Agricultural Purpose

Co-authors: Robin John Quadras , Sharath Kumar , Vivek Shetty

Dr. Balachandra Achar H V
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Fabrication of Pesticide Series Spraying Machine for Agricultural Purpose

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Abstract—Agriculture is the backbone of Indian economy and is the most important sector in the Indian economy. Agriculture contributes around 23% tothegrossdomesticproductandmorethan70% of the total workforce is employed in this sector. In India peoples till follow old methods for cultivation and modernization speed is very slow. For spraying pesticides and insecticides farmers in India are mainly dependent on knapsack sprayers. These sprayers are carried by farmer son their back and force is applied manually. Because of the weight of the sprayer farmers will face lot of problems like Back pain. So, too ver come this problem a machine is developed in which the knapsack sprayers placed on chassis so that the farmer need not carry the knapsack sprayer on his back. Knapsack sprayer usually consists of a single nozzle but in this machine a total of four nozzles can be accommodated. Therefore, the speed of pesticide spraying increases. In this machine the height of the nozzles and the Horizontal distance between the nozzles can be easily adjusted depending on the height of plants and distance between the plants. Both energy and time of the farmers is saved by using this machine. This machine or mechanism of spraying does not require any fuel and cost of spraying is also reduced.

Keywords: Agriculture, knapsack sprayer, nozzle, pesticide.

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Paper Title: Extraction of Human Body Measurement Using Green Screen Segmentation

Co-authors: Thrishna, Vidyashree, Chaithra, Sachin Bhat

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Extraction of Human Body Measurement Using Green Screen Segmentation

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Abstract—In this fast-phased world, the fashion industry is changing and tries to give confidence to people who wear their clothes. The fit of the garment depends on accuracy of measurements. The traditional method of measuring may provide wrong information if the tools are inappropriate. Even though 3D body scanning can give accurate results, they cannot be afforded by small business setups. 3D imaging makes the process expensive. Not all can afford a stylish to measure and stitch 4-5 sets of outfits and select the best. The working community has no time to visit stores/tailoring shops regularly. This project proposes inexpensive method for extracting human body measurements from 2D images which helps the society to reach out to the different styles and fitted garments of their taste. Human body measurements are extracted with the help of - Affine and Metric correction, Green Screen Segmentation, Heuristics for detection and pixel to real world distance. It is a 2D image based system which takes one front view, side view and front view with checkerboard. This method involves manual annotation technique.

Index Terms—Affine and Metric correction, Perspective Transformation, Green Screen Segmentation, Chroma Keying Technique.

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Paper Title: Understanding the Entrepreneurial intention among final year Engineering students in coastal Karnataka region

Co-authors: Chinmaya R Nairy, Bharath Kumar , Girish K B, Madhukar Nayak

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Understanding the entrepreneurial intention among final year Engineeringstudents incoastal Karnataka region

B Shankar Shenoy1, Chinmaya R Nairy2,Girish Kumar3 and Bharath Kumar4 Madhukar Nayaks,
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1234Department of Mechanical Engineering, SMVITM, Bantakal

Abstract- This paper aims at studying the entrepreneurial intention among final year engineering students of coastal Karnataka region. The research framework of this study is traced from the Ajzen model of Theory of planned behavior. Data collected from the final year engineering students from coastal Karnataka region using a validated questionnaire. Around 500 students participated in the survey. Findings of this study help educational institutions and government to understand the present stand of entrepreneurship intention among students and frame adequate polices to support entrepreneurial activity in the country. Results of this study show that attitude towards entrepreneurship, perceived behavioral control, Need for achievement, Subjective norm, University environment and support are the significant factors that influence the intention level of entrepreneurship among students. The results of this study may help educational institution and government agencies to frame strategy in order to motivate students to start own business and generate employment in the country.

Key words- Entrepreneurial Intention, Attitude toward entrepreneurship, Subjective Norm, Perceived Behavioral Control, Need for Achievement, University environment and support.

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Paper Title: Early Flood Detection and Avoidance System Using IoT

Co-authors: Nithesh, Vinaya, Deepthi G Pai

Dr. Balachandra Achar H V	Dr. Sudarshan Rao	Dr. Thirumaleshwara Bhat
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Early Flood Detection and Avoidance System Using IoT

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Abstract— Flooding is one of the biggest natural disasters occurring in various parts of the world. Flood disaster usually occurs due to improper irrigation method in a housing area or the sudden increase of water volume in a river or dams. It often causes loss of property, damages and lives. Well Developed sensors are used to identify the level of water present in dams, rivers, lakes and heavy storage areas. Thus, this project is about designing about the system that can measure the speed of the rise of the water level at the potentially flooded area. This paper intends to understand the security necessity and security design of Internet of things innovation for urban flooding avoidance the executive's framework, what's more, talked about the interest and by and large plan of flooding anticipation the executive's framework. The Internet of Things or IOT gives the capacity for human and machines to communicate from billions of things that incorporate sensors, administrations or other Internet associated things.

Keywords — Dams, Flood disaster, Internet of Things, Urban flooding avoidance, Rivers, Sensors, Security, Water level.

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Paper Title: Disease prediction in Paddy crop using machine learning

Co-authors: Sushma, Sneha nayak, Rakshitha. M, Deepak Rao M

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Disease Prediction in Paddy Crop Using Machine Learning

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Abstract— India is a country mainly based on agriculture. Paddy is one of the major crops of India. Millions of people in India are depended on paddy so as to live by means of farming and later on processing. As population of our country is increasing, starvation and demand for the food is also increasing. One major problem in meeting this demand is disease to the crop in general and particularly leaf diseases of paddy crop. These diseases will greatly decrease the productivity of the plant and directly impact on economy of the nation. The major problem of these diseases is identifying them at the early stage. Though experts are available in some areas, disease detection is mostly performed by naked eye which causes inappropriate recognition most of the times. To address this issue in this paper, an automated system is proposed for identifying three common paddy leaf diseases namely Brown spot, Leaf blast, and Bacterial blight. K-means clustering is used for separating affected part from paddy leaf image. Visual contents color, texture, and shape are used as features for classification of these diseases. The type of paddy leaf diseases is recognized by Support Vector Machine (SVM) classifier.

Keywords — Machine Learning, image acquisition, median filtering, K-means clustering, ANN - Artificial Neural Network, Naïve Bayes Classifier, SVM - Support Vector Machine, KNN - K- Nearest Neighbor, Gradient Classifier.

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Paper Title: Determinants of Entrepreneurial Intention among Engineering Students: Application of Theory of Planned Behaviour

Co-authors: Dr. Narasimha Marakala, Dr. Vasanth Kamath

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Determinants of Entrepreneurial Intention among Engineering Students: Application of Theory of Planned Behaviour

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NMAM Institute of Technology and Management, Nitte, Udupi2.
T. A. Pai Management Institute (TAPMI), Manipal, Udupi

Abstract: Entrepreneurs are "the engines of economic growth." They also contributed immensely to the constructive commitment of a nation to economic prosperity and social progress. Contributions include the invention and creation of employment opportunities. Since entrepreneurship is associated with self-employed individuals, it is perceived to be an effective approach to address the challenge of employability, especially among young people. Therefore, recognizing the variables that determine entrepreneurial motivation is important since entrepreneurial behavior is the result of purpose. This research aims to identify the factors of entrepreneurial inspiration and purpose between final year engineering students. As most research suggests that entrepreneurial motive may be calculated through the use of Planned Behavior Theory (TPB), this principle is utilized as a theoretical foundation in this research. The main parameters of this research are personal behaviors, perceived social guidance, and perceived behavioral management. This theoretical paradigm has been tested with 372 final year engineering students at engineering colleges in the coastal Karnataka part of India. Findings have shown that personal perception, presumed behavioral influence, and perceived social assistance are indicators of entrepreneurial motive. This research will assist policy departments, organizations, researchers, business students, advisors, and other stakeholders in identifying suitable ways to promote entrepreneurship in higher education institutions and, ultimately, in the community.

Index Terms: *Entrepreneurial* intention; Theory of Planned Behavior; perceived relational guidance; personal perception; and perceived behavioral management.

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Paper Title: Improving Functional Properties of Mg-4Zn-1Sr alloy using Cryo Ball Burnishing Technique

Co-authors: Akashraj,Chirag Nayak, Bhaskar M, Aditya Kudva S, Gajanan Anne

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Improving Functional Properties of Mg–4Zn-1Sr alloy using Cryo Ball Burnishing Technique

Rakshith Kotian[1], Akashraj [1], Chirag Nayak[1], Bhaskar M[2], Aditya Kudva S[1], Gajanan Anne[3]
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Abstract— Cryogenic ball burnishing was carried out for Mg-4Zn-1Sr alloy. The alloy was homogenized at 300˚C for 24 hrs. Cryogenic ball burnished materials were characterized using optical microscope and the result showed significant reduction in the grain size (up to 7.6µm) when compared with that of cast alloy (260µm). The best surface roughness of 38.5 nm was achieved by the depth of press-0.6 mm, feed-450 mm/min, no of pass-1(DFN641) sample. Maximum micro hardness of 114±6 HV was achieved for depth of press-0.6mm, feed-450 mm/min, no of pass-1 (DFN641) sample which was about 1.9 times higher in comparison with that of cast alloy 58±3 HV. Corrosion test of the alloy was investigated in SBF solution using immersion test. The corrosion rate of depth of press-0.6mm, feed-450 mm/min, no of pass-2 (DFN642) sample improved (1.33 mm/year) 5.74 times in comparison with that of cast Mg-4Zn-1Sr alloy (7.65 mm/year) due to fine grain structure.

Keywords- Cryogenic ball burnishing, Mg-4Zn-1Sr.

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Paper Title: **Smart complaint redressal system using ethereum blockchain**

Co-authors: Rachith R Naik, Suhani, Vineeth Kumar, Sneha N S

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Smart Complaint Redressal System Using Ethereum Blockchain

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Abstract— In today's world, more focus is given on the availability of the websites and also the various applications present in the android market. People will manage their daily work on time, precisely, very fast and with satisfaction. So various technologies are used to fulfill the daily work. In India, there is no direct and efficient way of communication between the government and the public, for solving a problem i.e for getting a problem solved at any place, people may have to wait for three months, but it can probably be solved sooner. Nowadays, the scenario has changed. Many applications are available, which allow users to register their complaint. But there are some problems related to its transparency. This paper proposes an Ethereum blockchain application that will help people to register their complaints and get updates about the complaint. Adoption of blockchain technology makes the application more secure, transparent and immutable.

Keywords — Energy, Light-dependent Resistor(LDR), Piezoelectric transducer(PZT), Pressure, Street Light

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Paper Title: A Survey of Cardiac Arrhythmia Classification using Deep Learning Approaches

Co-authors: Akanksha, Shrikara, Shreya Bhat, Manoj T

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A Survey of Cardiac Arrhythmia Classification using Deep Learning Approaches

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Abstract— Cardiovascular diseases contribute to the majority of mortality worldwide. One in every four deaths that occur every year is due to heart related ailments. As a result, it is of prominent importance to study the symptoms, features and cures for heart diseases so that timely action can be taken to prevent the occurrence of preventable and detectable fatalities. Arrhythmia is a type of heart ailment where the heart rate is irregular. It occurs as a result of the erratic behaviour of the electrical impulses that control heartbeat. Although arrhythmias do not result in immediate physical problems, it could be a preliminary stage of serious conditions like stroke and heart failures which could ultimately yield a person incapacitated or even cause death. Therefore, timely detection of arrhythmias proves to be of great value. The electrocardiogram (ECG) is extensively used to study the functions of the heart and detect possible issues. Early machine learning techniques have produced impressive results in automatic arrhythmia detection and classification. But these methods suffer from the drawback of manual feature extraction and strenuous preprocessing. This requires in depth knowledge of the various technicalities of the biological and electrical functioning of the heart. But the deep learning techniques which include automatic feature extraction are yielding better results in recent years. In this paper, we present a survey conducted on features of ECG, the characteristics of various types of arrhythmia, and the deep learning techniques involved in detecting a particular type of arrhythmia by analyzing the ECG waveform.

Keywords — Arrhythmias, Convolutional Neural Networks, Electrocardiogram, Deep Learning

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Paper Title: **Bus Tracking System Using GPS & Android Application**

Co-authors: Tejas Upadhya K C, Sowmya, Shwetha

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Bus Tracking System Using GPS & Android Application

Shwetha, Sowmya, Tejas Upadhya K C, Vikhyath N V, Ranjith Bhat
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Abstract— Bus tracking system is the technology to find the exact location of the buses using an android application. Data of the location is stored in the cloud and is retrieved from the cloud to the app. The system consists of hardware and software components. The tracking system mainly consists of three parts namely mobile vehicle unit, fixed base station and, database and software. Vehicle unit is hardware component consists of GPS (Global Positioning System)/GSM (Global System for Mobile Communication) modules. The function of this unit is to receive the signals from GPS module and using a controller or processor convents the data and sends the location data to the server. Fixed base station consists of a wireless network to receive the data and sends the data to the user. It mainly concentrates on the tracking software and geographic maps helps to find the vehicle location. Maps of every city are available in the system that has an in-built server. Database and software unit deals with the position information stored in database. It can be seen in display screen using maps. The bus location is transmitted to the server and will be retrieve in the app. So app will become handy and simple to track the location of the bus.

Index Terms— Database, Fixed base station, GPS /GSM, Server, Software.

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Paper Title: **Evaluation of mechanical properties of bamboo and banana fibre composites**

Co-authors: Safwan ahamed, Sannith, Vijeth kumar, **Kiran bhat**

Dr. Balachandra Achar H V
Convener

Dr. Sudarshan Rao
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Dr. Thirumaleshwara Bhat
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Evaluation of mechanical properties of bamboo and banana fibre composites

Sachindra Serigar a, Safwan Ahamed a, Sannith a, Vijeth Kumar a, Kiran Bhat b
a Students, Department of Mechanical Engineering, SMVITM, Bantakal Udupi.
b Assistant professor, Department of Mechanical Engineering, SMVITM, Bantakal Udupi.

Abstract— Natural Fibre Composites (NFC's) nowadays are slowly replacing aluminium and other such metallic materials in automobile and aircraft industries. Interest is shown on NFC's due to their advantages including low environmental impact and low cost. In this study a composite material is synthesized using long length banana and bamboo fibres reinforced with Epoxy, by hand-layup process. The specimens are prepared according to ASTM standards and mechanical testing was carried out. The composites with different weight fraction of epoxy i.e., 60% and 70% and 20% and 15% of weight fraction of banana and bamboo fibres were tested for tensile, flexural and impact strength.

Index Terms— Bamboo fibre, Banana fibre, Epoxy, Hand-layup process, Mechanical properties

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Paper Title: An Engineering student's viewpoint on the implementation of active learning techniques and modern tools for the teaching-learning process

Co-authors: Dr. Thirumaleshwara Bhat

Dr. Balachandra Achar H V
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An Engineering student'sviewpointon the implementation of active learning techniques and modern toolsforthe teaching-learning process

Kishor Kumar Aroor, Prof. Dr. Thirumaleshwara Bhat.
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Abstract— Large number of graduates coming out of higher educational institutions, especially the technical institutions facing tough competition in the job market, which demands high quality education for preparing competitive graduates coming out of their institution. In view of this Accreditation by National Board of Accreditation (NBA) is a mandatory requirement for every technical institution in India. Accreditation by NBA is based on Outcome Based Education (OBE) practices. Active learning techniques and use of modern technology in teaching learning process are key components of OBE practice. The investigation on the above components carried out determined the level of implementation of active learning techniques and use of modern tools for teaching-learning process with student's acceptance towards these techniques in Engineering Institute. The study has been carried out in an Engineering College to investigate the level of implementation of active learning and modern tool usage has revealed a positive response from the stakeholders. The study also indicates that Active learning techniques such as summarizing, group discussion, quiz and usage of modern tools in the teaching learning process are very effective.

***Index Terms*— Active learning techniques, Outcome Based Education**

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Paper Title: Effect of alkaline treatment on dry sliding wear performance of natural fibre fabric reinforced epoxy composite

Co-authors: Sharun Mendonca, Thirumaleshwara Bhat

Dr. Balachandra Achar H V
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Effect of alkaline treatment on dry sliding wear performance of natural fibre fabric reinforced epoxy composite

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1,2Asst. Professor, Dept. of Mechanical Engineering, St Joseph Engineering College, India
3Professor, Dept. of Mechanical Engineering, Shri Madhwa Vadiraja Institution of Technology & Managment, India

Abstract—In this work, three types of bio-composi tes, i .e. bamboo, flax and sisal fabric reinforced epoxy resin, were manufactured using a hand layup fol lowed by compression technique. The influence of sl iding veloci ty (A), normal load (B), alkal i treatment (wi th 0, 5 and 10 wt% NaOH solution for 30 min) (C), and sl iding distance (D) on dry sl iding wear loss of bamboo, flax and sisal fibre fabric reinforced epoxy composites were investigated using a statistical approach. Dry sl iding wear test were conducted as per ASTM G99 standard using pin on di sc test setup based on Tagu ch i 's L27(313) orthogonal arrays. Wi th the signal -to-noise (S/N) ratio and analysis of variance (ANOVA) optimal combination of parameters to minimize the wear loss was determined. It was found that chemical treatment of fiber has signi ficantly reduced the wear loss in the composites. Normal load (B) was found to be the most signi ficant factor affecting the wear loss fol lowed by (C), (D), and (A). Interaction effects of various control parameters also has signi ficant on wear loss of composi test.

Index Terms— ANOVA, Dry sl iding wear, Natural fiber, Pin-on-disc, Taguchi orthogonal array

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Paper Title: **5G Cellular Network in Cyber Physical System: An Overview**

Co-authors: Trivikrama Bhat, Rama Moorthy H, Vinaya

Dr. Balachandra Achar H V
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5G Cellular Network in Cyber Physical System: An Overview

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Abstract— Cyber-physical systems are becoming more and more commonplace nowadays. It's expected that the cyberphysical systems revolution will be more transformative than the IT revolution of the past four decades. The world is expecting over 50 million sensors to be connected to the internet by 2020. This explosive increase in the number of connected 'things' needs to be accommodated in the available network architecture and infrastructure. Such a move is bound to be ridden with challenges that the cellular providers need to handle in order for all the millions of devices to work seamlessly. In this paper, we present an analysis of the current architecture of the connected CPS devices and mainly focus on how the next-generation 5G cellular networks enable CPS communications. (Security write)

Keywords — 5G, Cyber-Physical System, IoT

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Paper Title: Development Of Wet Food Waste Converter for Clean India Mission

Co-authors: Mohammad Abrar, Mohammad Fahim, Mohammed Affan, Karthik V

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DEVELOPMENT OF WET FOOD WASTE CONVERTER FOR CLEAN INDIA MISSION

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Abstract—Food waste contains high water and organic matters. In addition, it contains a variety of unsaturated fatty acid. The matters are easy to decompose. It is easy to grow bacteria. But after drying, food waste will be good organic fertilizer. It not only reduces health and pollution problems, but also bring economic benefits. General method to make food waste to organic fertilizer: Separation and Dehydration, crushing, drying, pelleting, cooling and package. Food waste water content is more than 80%. After separation and dehydration, the moisture will be less than 60%. It needs to be dried to be organic fertilizer. For drying it more evenly, food waste gets crushed with air delivery system, and it will be delivered to the belt conveyor and sent to drying unit. After the food material reaches cylinder: Firstly, the wet material will be scattered into small pieces by rotary harrow in the process of falling, and then, it is repeatedly & thoroughly grabbed, lift, fallen and beaten. The surface area of the shattered materials increased rapidly, and contact with hot air is sufficient to transfer heat and mass. In the last cylinder of organic fertilizer drying, the temperature is cooler than the first and second cylinders, food waste organic fertilizer cools down, which reduces water content further.

Index Terms— Wet Food Waste, Clean India, Hygiene, Organic fertilizer, Dehydration.

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Paper Title: **Time Table Management System using Genetic Algorithm**

Co-authors: Chaitra R K, Kripa, Manasa S, Dhanya Shenoy

Dr. Balachandra Achar H V
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Time Table Management System using Genetic Algorithm

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Abstract— Timetabling is the assigning of an event to a particular time slot in a timetable. Timetable construction is a hardworking and complicated task when there are a large number of courses and limited resources. As a result, some institutes tend to solve this issue manually even when the results may not always be fully optimal. Timetabling is the assigning of an event to a particular time slot in a timetable. Many solutions exist in the search space of a timetabling problem, but few of them are not feasible. Genetic Algorithm is a meta-heuristic algorithm that has been successfully applied to many optimization problems such as scheduling and timetabling problems. By using Genetic algorithm, we are able to reduce the time required to generate timetable which is more accurate, precise and free of human errors. Finally, the genetic algorithm was applied in the development of a viable timetabling system in which timetables that can be generated based on user specified constraint and requirements.

Keywords— Genetic Algorithm, Timetable, Constraints

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Paper Title: **Super Stick**

Co-authors: Priyadarshini P, Prathiksha R, Ashwini, Ramyashree

Dr. Balachandra Achar H V	**Dr. Sudarshan Rao**	**Dr. Thirumaleshwara Bhat**
Convener	**Convener**	**Conference Chair**

Super Stick

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Abstract— The Blind stick system is capable of operating in user friendly manner, so that the blind person can walk independently without getting help from others. This system assists the blind to navigate on their own. In case of emergency situations such as high traffic density or the person feels unsafe and is in need of help, the location of the member is shared with the family members. The prototype model consists of a stick and a hand glove with vibrator motor. The stick with sensors deployed can detect obstacles in front with sensors and it will produce vibration on a finger depending upon the direction. The vibration would alert the user. The Blind stick system is equipped with in built GPS and GSM equipment, so that if the blind person needs help from the family he can press the emergency button which is present on the stick and then his location will be shared with his family. By trial and error method the system can detect obstacles such as pedestrians, objects with greater accuracy. This system is very user friendly and safety as well.

Keywords — GPS, GSM

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Paper Title: REVIEW ON SMUGGLING DETECTION AND PREVENTION SYSTEM FOR TREES IN FOREST USING IOT

Co-authors: Prajwal K , Niveditha , Shilpa , Nagaraj Bhat

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Review On Smuggling Detection And Prevention System For Trees In Forest Using IoT

Pradeepa Acharya[1] , Prajwal K[2] , Nivedita[3] , Shilpa[4] , Dr. Nagaraj Bhat[5]
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Department of Computer Science and Engineering
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Abstract— The smuggling of trees such as red sanders, sandalwood, and teak wood is still an existing problem. These trees are made used for medicinal purpose. Trees are cut down and sold in illegal market threatens the rare tree species population. These trees are extremely costly and less possibly available in the market[1]. The sandalwood trees are said to be imperial in recent times of India, the Indian government has already set some measures to protect these trees from smugglers but implementing it over a large area like forest is ineffective. Fencing the forest area. This is one of the oldest methods used but the cost required to build it increases proportionally to the area of forest. Manual monitoring of forest by enforcing the security personals in specific forest region is one of the methods to control the cutting of trees. But it is hard to monitor the entire area by humans and providing continuous over day and night is impossible. Tagging of trees using RFID just like tagging the animals is employed. However, this does not provide real-time information when the problem occurs. It leaves a message only when the tree is moved from its original position. CCTV camera installation in the forest is again very costly and hard to implement. To address these issues we are using smoke sensors to detect the fire catches and for the movement of any object we are using PIR sensors, for the vibration detection we are using vibration detection, to differentiate between the many causes of vibrations we are using pattern matching, By this we can get when naturally the tree falls as well as Is anyone cut the trees. We are using image processing to differentiate between the human and the animal.

Keywords — Machine Learning, Internet of things, Support Vector Machine

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Paper Title: Electrical characterisation of sisal reinforced polypropylene composites

Co-authors: Srajan K Kotian, Vishal Kunder, Sukesha, Mr. Ganesh Kalagi, Mr. Narayan Nayak

Dr. Balachandra Achar H V
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ELECTRICAL CHARACTERISATION OF SISAL REINFORCED POLYPROPYLENE COMPOSITES

Shreyas Shetty1, Srajan K Kotian2, Vishal Kunder3, Sukesha 4, Mr. Ganesh Kalagi5, Mr. Narayan Nayak6

Department of Mechanical Engineering SMVITM, Bantakal, Udupi, India

Abstract

In recent years, the natural fibres have been more attractive. The natural fibres are technically enhanced by amalgamating with plastics. Types of natural fibres which can be used along with plastics are coir, luffa, hemp, jute, sisal and banana. The objectives of this experiment are to evaluate the suitability of producing fiber composites using sisal fibers. This study deals with the preparation of sisal fiber composites by using hot compression technique in which good interfacial adhesion is generated by a combination of fiber modification and matrix methods. Initially the sisal fibers were treated in order to improve resin fiber interfacial bonding. The treatment agent used were Sodium hydroxide. The dielectric properties, such as dielectric constant of sisal natural fibers reinforced with polypropylene were studied with different fiber loadings. The dielectric constant was lower for composites consisting of fibers subjected to alkaline treatment due to the increased hydrophobicity of fibers. When the weight percentage of sisal fiber was increased in the composites, the dielectric constant was found to increase. It is evident that types of polymer have little influence on the dielectric properties of the composites.

Keywords: Fibers, composites, sisal, polypropylene, Natural fibers.

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Paper Title: Sentimental Analysis Using Speech Streams

Co-authors: Elein Jisha Lewis, Branda, Amitha Kundar, Laxmi Shetty

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Sentimental analysis using speech streams

Akshatha B Bhat K , Elein Jisha Lewis, Branda, Amitha Kundar, Laxmi Shetty
Electronics and Communication, SMVITM, Udupi

Abstract: Sentimental analysis has evolved over past few decades, most of the work in it revolved around textual sentiment analysis with text mining techniques. But audio sentiment analysis is still in a nascent stage in the research community. In this paper, sentimental analysis is performed on speaker discriminated speech transcripts or data to detect the emotions of the individual speakers. VADER algorithm is analysed in order to perform sentimental analysis.

Understanding the mood of a person can be very useful in many instances. For example, computers that posses the ability to perceive and respond to human non-lexical communication such as emotions. In such a case, the machine after detecting humans' emotions could customize the settings according to his or her needs and preferences.

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Paper Title: Secured product delivery UAV based Windcopter

Co-authors: Rashmitha, Sneha, Priyanka Dsouza, Ms. Renita Pinto

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Secured product delivery UAV based Windcopter

Sushmitha1, Rashmitha2, Sneha3, Priyanka Dsouza4, Ms. Renita Pinto5
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5Assistant Professor, Dept. of Electronics and Communication Engineering, Shri Madhwa Vadhiraja Institute of Technology and Management, Bantakal-574115, (Karnataka), India

Abstract— Wind copter is a Quadcopter, which is commonly known as Drone. Due to rise in demand for commercial deliveries within cities, companies are facing problem in case of home delivery because of heavy traffic in road transport. Drones will solve the problem by exploring the transport opportunities in vertical dimension above the road [5]. This paper discusses about the design of scalable delivery drone which includes flight efficiency, energy consumption, noise and safety, that are the key parameters in delivery viability. This paper also discusses about the design and implementation of quadcopter-based UAV system for delivery operation using a camera.

Keywords—Quadcopter, Flight controller (Pixhawk), camera, GPS, Electric speed controller, keypad matrix, Raspberry pi

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Paper Title: Development of Seat Actuated Parking Brake Using Rack and Pinion

Co-authors: Sushan P Poojary, Sanath Kumar B, Preran P Shetty, Mallya Ananth Mohan

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Development of Seat Actuated Parking Brake Using Rack and Pinion

Prajath P Sherigar1, Sushan P Poojary2, Sanath B Shetty3, Preran P Shetty4, Mallya Ananth Mohan5

Shri Madhwa Vadiraja Institute of Technology and Management, Udupi, Karnataka, India.

ABSTACT

Brake is among the protection devices of an automobile. A typical car consists of two kinds of brakes, one for retarding vehicle speed when in motion, and another for keeping the vehicle in place while still. It's essential before beginning the vehicle, to disengage the handbrake. People sometimes forget to engage or disengage the brakes when they park the car, to be able to solve the downsides of this modern method, we've introduced launch system and a universal parking brake, where the Brakes are actuated using the Rack and Pinion arrangement and Solenoid, so the brake can be engaged or disengaged accordingly automatically by seating or getting up from the Seat.

KEYWORDS: Automobile, Brakes, Handbrakes, Universal Parking Brakes, Rack and Pinion, Solenoid, Seat.

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Paper Title: SaviourDrone: The Drone Designed To Help In Medical Emergencies

Co-authors: Rahul Adiga C, Sameeksha U Raikar, Suma S H, Balachandra Achar

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SaviourDrone:The Drone Designed To Help InMedical Emergencies

Rahul Adiga C1, Sameeksha U Raikar2, Suma S H3, Sumanth S4, and Dr. Balachandra Achar5

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Abstract—Engineering and technology play an important role in the healthcare sector for the betterment of lives on earth. The project, SaviourDrone deals with the same, i.e., for the betterment of our society. The drone being developed will be completely driverless, equipped with a robotic arm and a two-way video communication feature. SaviourDrone will be interfaced with a fully customized mobile application for user benefits. The proposed robotic arm will be equipped with different sensors and nodes which can track the necessary vitals of a patient in need. The working of the project being built can be explained as follows, whenever a victim feels sick, the person himself / the people around can make use of the mobile application to inform the situation to the emergency services. The drone which is near to the patient receives the GPS coordinates of the patient and arrives at the spot in very less time. Even the ambulance nearby will receive the coordinates. Through the video communication feature, a doctor from the hospital can observe the condition of the patient. The mechanical arm measures the parameters like pulse rate, BP, emotional stress levels and these details are passed to the doctor. The doctor after examining the vitals can suggest the first aid to be done before the ambulance arrives. The basic first-aid will be available in the drone which can be used based on the instructions given by the doctor through video communication service.

Index Terms—Internet of Things, Aircraft navigation, Public healthcare, Telemetry, Global Positioning System, Image processing

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Paper Title: A New Design System of Quadcopter with Autonomous Flight Control

Co-authors: Darshan G Shetty, Yajnesh Anchan, Shreyas, Rajashree Nambiar P

Dr. Balachandra Achar H V
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A New Design System of Quadcopter with Autonomous Flight Control

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Abstract - An Uninhabited or unmanned Aircraft System (UAS) is composed of four main components: the air vehicle, the payload, the control station and the data link. The operators interact with the UAS through the data link and are usually located in the control station. The focus of this project is on the vehicle itself (UAV) and more precisely on rotorcraft. Indeed, rotary wing aircraft have a very wide range of applications, thanks to their Vertical Take-Off and Landing (VTOL), hover and low speed capabilities. In addition, since they do not require a runway or any heavy facilities, they are more often used than fixed wing aircraft for research in aerial robotics. Therefore, a very wide variety of rotorcraft concepts have been invented. This creativity has been reinforced by the blossoming and rapid expansion of UAS projects, due to their reduced cost and risk of development, compared with inhabited aircraft. From the past 10 years most of the drones created are RC-controlled and the design of quadcopters haven't changed. The only changes that are taking place is the variety of devices or sensors mounted on the drone. So, we are creating an entirely new design. Its built in such a way that it offers much more stability (co-axial rotors with two axis rotation), can lift higher payload and includes tight manoeuvrability. It includes obstacle detection and avoidance system, Advanced GPS location tracking and survey, it also provides protection against natural aerial threats using zoned frequency emitter.

Keywords- UAV, Drones, Quadcopter, Ergonomic Flight Design, Co-Axial Motors, 2 Axis Rotation, Autonomous Flight Control, Zoned frequency emitter circuit, Payload, Pixhawk, Telemetry, QGC, Mission planner, CATIA V5.

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Paper Title: Predicting Congestion In Network Using Machine Learning Techniques

Co-authors: Vimitha

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Predicting Congestion in Network using Machine Learning Techniques

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Abstract— When a burst of packets enters the network, the existing capacity of the network may not be sufficient to support the traffic which leads to congestion in the network. The main problem of congestion is the loss of packets during transmission which affects the performance of the system. The packet loss can be avoided if congestion is detected prior and reduces the packet generation rate at source with effective measures. In the current protocols, there is a predefined mapping between the observed state and the corresponding action. For example, when there is a packet drop in the network (observed state), the congestion window is reduced (action) irrespective of other parameters related to the networking environment such as resource utilization by each user, moving average, etc. Therefore, these protocols are unable to adapt their behaviour in the new environment or learn from past experience for better performance. To overcome these issues, the Machine Learning (ML) technique is required in the field of networking to learn from past experience and analyze the current network scenario to take certain actions. ML has the ability to deal with huge amounts of complex data which becomes one of the reasons for applying ML in the field of networking.

Keywords — Router based congestion control, Machine learning, Supervised learning, Congested network, Queue overflow.

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Paper Title: Pesticide Spraying System Using Wired Drone

Co-authors: Zihad akbar ali, Shashank, Swaroop inna, Vijendra Bhat

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Pesticide Spraying System Using Wired Drone

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ABSTRACT

Indian Agriculture is one of the most important sectors in the country's economy. Agriculture in itself produces more than 18.5 percentage of their gross domestic generation of the country. Indian Agriculture provides over 8.5 percentage of their entire exportation of the Indian economy. To be able to secure better return and to control the diseases on plants, pesticides are sprayed through sprayers, therefore sprayers are essential part of agriculture. The system of sprayers has drawbacks dents of pesticides, like non-directed spray and can be hazardous to operator in order to overcome these disadvantages we have developed the nation of drone sprayer That we'd solve the issue to a maximum degree. The designed and planned project would utilize a quad copter that's operated via remote control with a device. This sprayer will have advantage like regular spray, reduced labor involvement in performance etc.

KEYWORDS: *Agriculture, Pesticides, Sprayer, Quadcopter*

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Paper Title: **Survey on paddy leaf disease detection and classification using deep learning techniques**

Co-authors: Nishmitha Shetty, Ajay, Amod shetty, Manoj T

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A Survey On Paddy Leaf Disease Detection And Classification Using Deep Learning Techniques

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Abstract— India's agriculture has a proven history of growing a plethora of crops, with the foremost food staples being rice. Agriculture has been the backbone of the Indian economy and it will still stay therefore for an extended time. Paddy is one of the most important and widely cultivated crops in the Asian continent. It accounts for marketable production. Unfortunately, paddy cultivation is facing numerous challenges these days because of the infestation and different factors on paddy leaf inflicting rice leaf diseases. The diseases are mainly classified into Rice blast, Brown spot, and Bacterial leaf blight. These diseases have a great impact on both the quality of the rice crop and its yield. This ends up in a huge loss for the farmers, which leads to reduced interest in cultivating the paddy crop and eventually suicide. In this survey paper we present a different deep learning approach which can be used for paddy leaf detection and classification from their images.

Keywords— Convolutional Neural Networks, Deep Learning, Paddy Leaf Disease

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Paper Title: Experimental Investigation in Determining Optimum Working Temperature for a 4-Stroke Air-Cooled Motorcycle Engine

Co-authors: Dr Narasimha Krishna Bailkeri

Dr. Balachandra Achar H V	**Dr. Sudarshan Rao**	**Dr. Thirumaleshwara Bhat**
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Experimental investigation in determining optimum working temperature for a 4-stroke air-cooled motorcycle engine

Mr Mallya Ananth Mohan1, Dr Narasimha Krishna Bailkeri2
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Abstract— Almost every motorcycles on Indian roads is of the commuter variant and typically use air cooled single cylinder four strokes. Depending on the type of usage, these engines are optimized for fuel efficiency, rather than for outright power. Yet, the Indian obsession with fuel efficiency makes the riders run the engines very lean with the sole purpose of extracting the maximum possible mileage. Without sufficient airflow over the fins, these engines characteristically overheat in traffic conditions, affecting fuel efficiency drastically. This work aims at determining the optimum working temperature of an air cooled engine, where maximum fuel efficiency is obtained under static conditions.

Index Terms—engine, temperature, optimum working temperature

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Paper Title: Influence of Multi Directional Forging on Biodegradable Mg-Zn-Mn alloy

Co-authors: Karthik S , Manoj Moolya , Niranjan , Shamanth V , Gajanan Anne

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Influence of Multi Directional Forging on Biodegradable Mg-Zn-Mn alloy

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1Department of Mechanical Engineering Shri Madhwa Vadiraja Institute of technology and Management, Bantakal
2Department of Mechanical Engineering Reva University, Bangalore

Abstract— Multi-directional forging (MDF) was applied to Mg- 4%Zn-0.5%Mn alloy up to 6 passes successfully at 300°C. MDF processed materials were characterized using micro-structural analysis, mechanical properties and corrosion behaviour. The micro-structural analysis was investigated using optical microscope and average grain size found to be 6.6 µm. The hardness of the Mg- 4%Zn-0.5%Mn alloy was investigated using Vickers micro hardness test. The higher hardness was found in 4th pass of MDF sample (90±6 HV), which is 1.5 times higher compared to homogenized sample (60±2 HV). The corrosion behaviour of the alloy was investigated using Immersion study by using stimulated body fluid (SBF). Lower corrosion rate was found in 6th pass of MDF process (0.32 mm/year). As the number of MDF passes increases the material property was enhanced and corrosion rate decreases due to grain refinement during MDF process.

Keywords—Multi-directional Forging; Magnesium alloys; Microstructure; Mechanical properties; Corrosion behaviour.

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Paper Title: Multidirectional Forging of Binary Mg-Zn Alloy and its Performance

Co-authors: Aditya Kudva, Ramesh S, Gajanan Anne

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Multidirectional Forging of Binary Mg-Zn Alloy and its Performance

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1 *Department of Mechanical Engineering Shri Madhwa Vadiraja Institute of Technology and Management*

2 *Department of Mechanical Engineering, NITK, Surathkal*

Abstract —Multi-directional forging (MDF) was applied to Mg-6%Zn alloy up to 5 passes successfully at 400°C. Multi-directional forging (MDF) processed materials were characterized for microstructural analysis, mechanical properties and corrosion behavior. The microstructure was investigated using an optical microscope.The results showed a significant decrease in grain size up to 3.8 µm. The hardness of the Mg-6%Zn alloy was investigated using Vickers microhardness test. Microhardness of MDF processed 1 st pass samples (74HV) is higher than that of the homogenized sample(48HV). The microhardness of 3rd pass MDF was the highest (86HV) due to grain refinement and decreased to (78HV) in the 5th pass. The corrosion behavior of the alloy was investigated using immersion study in simulated body fluid (SBF). After the corrosion study tests it was found that the corrosion rate of 5-pass MDF sample was 0.16 mg/cm 2 /d compared to that of the homogenized Mg-6%Zn alloy was 0.45 mg/cm 2 /d due to fine grain structure. The obtained results showed that as the number of MDF passes increases the micro hardness and corrosion resistance increased because of grain refinement and induced strain during the MDF process. The drastic grain refinement was observed in the MDF processed sample as compared to homogenized base material.

Keywords— Multi-directional Forging; Magnesium alloys; Microstructure; Mechanical properties; Corrosion behaviour.

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Paper Title: Design and Development of Modular Reversing System in Scooter for Physically Challenged People

Co-authors: Deepak Achar, Abhishek, Ashwin M, Ravinarayan R Rao

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Design and Development of Modular Reversing System in Scooter for Physically Challenged People

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1, 2, 3, 4-BE Students, 5-Assistant Professor,
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Abstract—In day to day life ordinary person can commute from one place to other with the help of two-wheeler or four-wheeler, but when it comes to physically challenged people it is difficult. According to the NSO, a wing of Statistics and Programme Implementation survey for July-December 2018, there are 2.2 percent of the population are disabled in India. Two wheelers with retrofitting are the major commute system for physically challenged people. There are many types of retrofitted vehicles present in the market, but these systems partially serve the purpose. Disabled person will always need someone's assistance to pull the vehicle from parking place. To overcome this problem a motor system with a ratchet mechanism is implemented along with a modular frame structure that can be detached when not used. This paper highlight implementing of modular frame structure, reversing system and stability of the system with the shock absorbers in the scooter for the assistance of the physically challenged people.

Keywords: Modular, Disabled, Frame structure, DC motor

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Paper Title: **Mobile data protection**

Co-authors: Sharan, Shreyas Prabhu, Varun Tendulkar, Priyanka

Dr. Balachandra Achar H V
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Mobile Data Protection Using AES Algorithm

Prateek R K[1], Sharan[2], Shreyas Prabhu[3], Varun Tendulkar[4], Priyanka[5]
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Abstract— The term 'Mobile security' consists of protecting personal and business information which is stored on and sent via mobile devices. Mobile security also involves reducing various types of risks. It even refers to protecting mobile devices and the data that is present in it in the case of various kinds of data theft, unauthenticated access or even sudden or accidental erasing of data of the mobiles. In the current world mobile security is significant as it directly influences the trust among users and other entities and on the reliability of mobile phones therefore there is a need for a way to store various kinds of sensitive data and a secure way to retrieve it.

Keywords — Advanced Encryption Algorithm, Data Security

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Paper Title: An Efficient Approach for Detection of Lung Cancer through Image Processing

Co-authors: Gautham Naik, Apoorva, Zaheen Ayesha, Mr. Sharath Kumar

Dr. Balachandra Achar H V
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An Efficient Approach for Detection of Lung Cancer through Image Processing

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Abstract— Lung cancer is one of the most common diseases in the world. It is very difficult to detect lung cancer at early stages. Early detection of lung cancer is very important for successful treatment. In recent years the image processing mechanisms are used widely in several medical areas for improving early detection and treatment stages, in which the time factor is very important to discover the disease in the patient as fast as possible, especially in lung cancer. Along with image processing, we can also use machine learning techniques for the detection of lung cancer. Various machine learning algorithms are considered and the machine is trained to detect the processed CT scan images. An efficient algorithm is chosen. In this paper, we describe the image processing of the CT scan images and the machine learning techniques applied to obtain an efficient method for early and accurate detection of lung cancer.

Keywords — Image Processing, Lung Cancer, Machine Learning

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