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Academic Year: 2019-20

Sr. no	Name of the teacher	Title of the book /chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN /ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher	Page No.
1	Amita Suke		House Cost Prediction Using Data Science And Machine Learning	International Research Journal of Engineering and Technology	International Research Journal of Engineering and Technology	International	30-Jan-20	239 5-005 6	WCE M,Nagpur	International Research Journal of Engineering and Technology	92
2	Amita Suke		Analysis Of Ophthalmic System Application Using Signal Processing	International Research Journal of Engineering and Technology	International Research Journal of Engineering and Technology	International	02-Feb-20	239 5-007 2	WCE M,Nagpur	International Research Journal of Engineering and Technology	93




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3	Rahul Bhandekar		Fire Fighting Robot Remotel Controlled By Voice Based Android Application	International Research Journal of Engineering and Technology	International Research Journal of Engineering and Technology	International	12-Feb-20	2395-0056	WCE M, Nagpur	International Research Journal of Engineering and Technology	94
4	Rahul Bhandekar		Marketing Data Analysis And Tracking System	International Research Journal of Engineering, Science and Management	International Research Journal of Engineering, Science and Management	International	12-Feb-20		WCE M, Nagpur	International Research Journal of Engineering, Science and Management	95
5	Rahul Bhandekar		Gesture-Wizard	International Journal of Advance in	International Journal of Advance in	International	08-Sep-20	2395-5252	WCE M, Nagpur	International Journal of Advance in	96



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11	Khemutai Tighare		Gesture-Wizard	International Journal of Advance in Engineering & Management	International Journal of Advance in Engineering & Management	International	08-Sep-20	2395-5252	WCE M, Nagpur	International Journal of Advance in Engineering & Management	102
12	Kushal Yadav		Analysis and Design of Multistoried Building in hilly areas using STAAD Pro	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING & TECHNOLOGY	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING & TECHNOLOGY	International	Apr-20	e-ISSN: 2395-0056 p-ISSN: 2395-0072	WCE M, Nagpur	INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING & TECHNOLOGY	103



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HOUSE COST PREDICTION USING DATA SCIENCE AND MACHINE LEARNING

Anuj V. Kumar¹, Anshuman Kumar², Satish S. Tiwari³, Sneha G. Gobade⁴, Prof. Amita Suke⁵

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Abstract- This project is based on data science and machine learning to predict the cost of house by collected data for housing price to analyze data and predict the cost of new house. Predicting housing cost based on three important factor which include physical condition, Concept for building and location. First we explore the data for analyzing by plotting different graph and next, split the data into training set and testing set and using different regression method to predict the price. There are various method to such this and each method has pros and cons. I think regression is one of the most important method because it gives all more insight about the data by using different regression technique to improve the performance of the model.

Keywords: data science, machine learning, linear regression, multiple linear regression, MSE, RMSE, polynomial regression, K-NN regression, R² square, adjusted R² square.

I. INTRODUCTION

In day to day life population is increasing, everyone wants house for living. So, this is very difficult to predict the cost of house, so there is a need of the system to predict the cost of price in future. The system help the developer to the determine the selling price of house and help customer to arrange the right time to purchase a house. Regression is best method of prediction to predict the cost of house. To predict the cost of house price person usually tries to locate similar properties his or her locate similar properties his or her neighborhood and based on collected data that predict the cost of house. All these analysis of data collection emerging the area of prediction, which is required for machine learning for create the model of who predicts the cost of house by linear regression, also apply multiple regression which is more accurate predict the cost of house. Also available various regression technique to predict the good price of the data like polynomial regression, KN-regression, importing modules, reading the dataset and defining an evaluation table. This data frame includes root mean squared error (RMSE), R-squared, adjusted R-squared and mean of the R-square value obtained by the k-fold cross validation.

II. RELATED WORK

The biggest challenges faced by researchers is to optimum number of feature that will help to predict the accurate direction of house prices. It can mention that productivity growth in various residential construction sectors does impact the growth of the housing prices. [2]

In datasets various attributes utilizes such as ID, date, price, bedroom, bathroom, sqft-living, sqft-lot, floors, water tank, view, yr-renovated, Zip code, flat, long.

Another biggest challenge that is faced by the researchers is to find out various machine learning technique that will be more effective for accurate predicting the cost of house. The current work is unique compared to other problem from regression perspective. That tries to predict the cost of house but in regression less feature take for finding more accurate result apply different regression technique.

2.1 Install

This project requires anaconda python, because below libraries already available.

- Numpy
- Matplotlib
- Seaborn
- Skit-learn
- Pandas

Also need to have software. Install, run and execute a Jupyter notebook.

Anaconda python provide various features that will really helpful for us such as 'help' one of the keyword that is used to take library help and also learn sum extra features.

2.2 Data

The housing data consist of 21614, Dataset, and 21 feature(attributes). This dataset is a modified version of the housing dataset found on kaggle.

Analysis of Ophthalmic System Applications using Signal Processing

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Abstract – The aim of this paper is to explore the potential for modern computing technology to advance clinical ophthalmology. In particular we will be investigating the potential for computer programming in the development of novel and objective measures of ophthalmic disease. Ophthalmic diseases like diabetic retinopathy, vision blur etc. have been causing issues with the society at large. Measures for evaluation are discussed in this paper. These measures could ultimately be used for clinical diagnosis or severity measures for clinical decision making. They could also be used as research tools, providing objective outcome measures to power more robust clinical trials.

Key Words: Retinopathy, Clinical, Ophthalmology, Membrane, Hyperglycaemia, Macula.

1. INTRODUCTION

Approximately 37 million people are blind worldwide due to various eye related diseases, out of these 75% are either preventable or treatable [1]. Diabetic retinopathy (DR), a micro vascular complication in the retina due to diabetes, is one of the leading causes of adult blindness worldwide. However, it is only next to cataract, glaucoma or age-related macular degeneration (AMD) and amongst retinal degeneration; DR is the second leading cause of blindness in the working age group and accounts for 4.8% of global blindness (Fig-1). In India, 20% of the type 2 diabetes mellitus (T2DM) population is estimated to develop DR which suggests that by 2025 nearly 11.4 million adults with diabetes may develop DR [2].

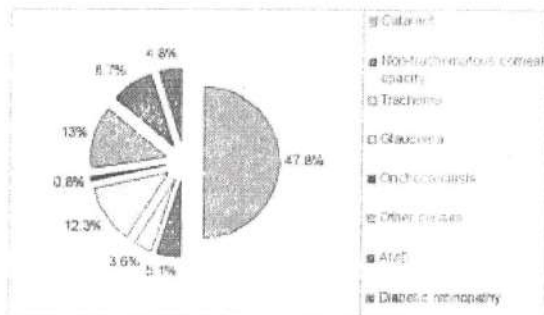


Fig-1: Major causes of worldwide blindness, 2012

DR is a progressive disease of the retina and detected clinically by the presence of retinal micro vascular lesions which are visible when examining with an ophthalmoscope. It is a sight threatening complication of diabetes if macula is involved that may result in

irreversible blindness if not managed appropriately. Hyperglycaemia initiates a cascade of pathologic complications which eventually brings about devastating damages in the retina such as basement membrane thickening, loss of pericytes, blood retina barrier breakdown, etc. Clinically, DR is diagnosed by the presence of the following features (Table-1) [3]:

Table-1: Clinical features observed in DR

Clinical feature	Description
Microaneurysms	Visible out-pouching of the fragile blood vessels.
Intraretinal haemorrhage	Results from the ruptured micro aneurysms and appear as dot blots if present in the inner nuclear layer of the retina.
Soft exudates	Also known as 'cotton wool spots' formed by the swelling of nerve fibre layers due to sealing of the capillaries and ischemia.
Hard exudates	Represent protein and lipid deposits within the retina
Venous beading	Resemble beads due to alternating thick and thin appearance of the veins
Intraretinal microvascular abnormalities (IRMA),	Distinctive aberrations that affect small blood vessels of the retina
Neovascularization	Growth of new blood vessels to compensate for the ischemia induced oxygen deficit.
Vitreous haemorrhage	Accumulation of blood in the vitreous due to more and more of leakage from the weak newly growing blood vessels

Severity of DR is determined based on the presence of one or more of these symptoms observed in an ophthalmic examination of the fundus.

Among the different systems of classification of DR, the Early Treatment Diabetic Retinopathy Study (ETDRS) is considered as the gold standard [4]. Classifications proposed by American Academy of Ophthalmology (AAO) [5], National Screening Committee (NSC) [6] and Scottish Diabetic Retinopathy Grading Scheme (SDRGS) [7] follow the ETDRS system with certain modifications. The international classification system proposed by AAO is widely used [8].



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Fire Fighting Robot Remotely Controlled by Voice based Android Application

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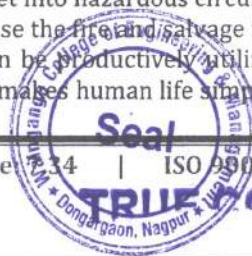
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ABSTRACT:- Recognizing fire and extinguishing it is a perilous activity that puts the life of a fire warrior in danger. There are many fire mishaps, which fire warrior, needed to free their lives in the line of obligation every year all through the world. The innovative work in the field of Artificial Intelligence has offered to ascend to Robotics. Robots are actualized in different zones like Industries, Manufacturing, Medicines and so forth. Consequently, Robotics can be utilized to help fire contenders to play out this assignment of fire battling and in this manner diminish the danger of their lives. Fire Fighter, is a robot intended to use in such outrageous conditions. It tends to be worked and constrained by the remote clients and can smother fire subsequent to finding the wellspring of fire. It is furnished with an observing framework and works through a remote correspondence framework. The fire identification framework is structured utilizing the sensors mounted on the fire contender robot. The robot is controlled self-sufficiently utilizing Android application. Android cell phone stage created by Google has picked up fame among programming designers because of its incredible capacities and open stage. In this way, Android is an incredible stage to control a Robotic framework. Android gives numerous assets and as of now coordinates part of sensors. This idea assists with creating enthusiasm just as advancement in the field of robotics while moving in the direction of a down to earth and possible answer for spare lives and moderate the danger of property harm.

Keywords—: Fire source detection, Autonomous Navigation, Sensors, Fire extinguishing, Android.

1. INTRODUCTION

Firefighting and safeguarding the unfortunate casualties is an unsafe assignment. Fire Fighters need to confront risky circumstances while extinguishing the fire. Fire Fighters quench fires in tall structures, drag substantial hoses, move high stepping stools, convey exploited people from one working to another. Notwithstanding long and sporadic working hours, fire warriors additionally face antagonistic condition like high temperature, residue and low stickiness. Moreover, they likewise need to confront hazardous circumstances like blast and breakdown structures. As indicated by the report of IAFF in the year 2000, 1.9 fire contenders per 100,000 structure fires have lost their lives every year in USA. In any case, this rate was expanding to 3 for each 100,000 structure fires. The various reasons for Line of Duty Deaths (LODD) are smoke inward breath, consumes, smashing wounds and related injury. Measurements shows that the passings of fire warriors are consistent consistently. This outcomes needing firefighting machines to help the fire warriors to maintain a strategic distance from passings by taking care of the perilous circumstances. So if a robot is utilized rather, which can be controlled from a separation or which can perform activities cleverly independent from anyone else, which will lessen the danger of this undertaking of fire battling. Robot is a mechanical gadget that is utilized for performing assignments that incorporates high hazard like fire fighting[1]. There are numerous sorts of robots like fixed-base robots, portable robots, submerged robots, humanoid robots, space robots, medications robot and so on. The fixed base robot has a restricted workspace because of its structure. The workspace of the robot can be expanded by utilizing a versatile stage. These sort of robots are called versatile robots. Versatile robots are utilized in mining, military, ranger service, security and so forth. Portable robots can likewise be utilized for extinguishing the fire in burrows, enterprises, medical clinics, research centers, and homes. A fire battling robot will diminish the need of fire warriors to get into hazardous circumstances. Further, the robot will decrease the heap of fire contenders. It is difficult to douse the fire and salvage numerous exploited people during a period of gigantic catastrophe. Robot innovation can be productively utilized in such cases to save considerably more exploited people. In this manner, robotics makes human life simpler and sheltered just as spare a great deal of



Marketing Data Analysis and Tracking System

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Abstract: A marketing system is a combination of people, technologies and processes for managing marketing information. Marketing is very helpful in transfer, exchange and movement of goods. Goods and services are made available to customers through various intermediaries via wholesalers and retailers etc. Marketing is helpful to both producers and consumers.

Now-a-days many companies sell their product through marketing personnel's working on the field. Consider by taking an example of pharmaceutical industry, they have many marketing personnel's working on the field. The marketing evaluation process is done by manually. To analyze and track these persons is very difficult weather they are working efficiently or not. Data analysis is a process that begins with retrieving data from various sources and then analyzing it with the goal of discovering beneficial information. Basically analysis refers to breaking a whole into it separate component for individual examination.

Keywords: GPS, Marketing Representative.

1. Introduction

A marketing system is a combination of people, technologies and processes for managing marketing information. Marketing is very helpful in transfer, exchange and movement of goods. Goods and services are made available to customers through various intermediaries via wholesalers and retailers etc. Marketing is helpful to both producers and consumers. Now a day many companies sell their product through marketing personnel's working on the field. Consider by taking an example of pharmaceutical industry, they have many marketing personnel's working on the field. The marketing evaluation process is done by manually. To analyse and track these persons is very difficult weather they are working efficiently or not. Data analysis is a process that begins with retrieving data from various sources and then analysing it with the goal of discovering beneficial information. Basically analysis refers to breaking a whole into it separate component for individual examination.

Consider the following three main benefits of measuring improvement in marketing:

1. Identifying what's working.
2. Identifying what's not working.
3. Identifying ways to improve.

2. Motivation, Aim, Objective

From last few years online marketing increases rapidly, so there is a need to organize and manage all data online and to save that data in single place from which we can easily retrieve that data. Existing system cannot track the person working on field and cannot provide automated report.

A. Aim

"To develop an effective software solution for marketing system by analyzing and tracking their activities on daily basis and generate report accordingly".

B. Objective

- To analyze the data of field work.
- To track the current position of the person during field work.
- To generate the efficiency report based on the obtained data.
- To develop automated system which reduce manual work.

3. Background History

Previous marketing system works manually. They maintained their weekly or monthly work report on paper. Now a day also many marketing systems use excel for submitting their work report. In previous system, there is unavailability of tracking the person who's working on field. There is no guarantee of the person working on field are they really doing their job or not, because they submit their work report on weekly or monthly basis. Manager can't track the current position of the person on field and also can't obtain field data on daily basis and generate their report automatically. In previous system all work is done manually. MR submit reports weekly or monthly basis so it's hard to track the current position of the person working on field. In existing system, we can't track MR and we can't see daily selling report on daily basis. Fast report generation is not possible that's why tracking is so difficult. Information about Doctors, Stock of Medicines is not properly maintained. No central database is available for storing that information.

As the online Marketing increases day by day there is a need

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Gesture – Wizard

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Date of Submission: 30-07-2020

Date of Acceptance: 09-08-2020

ABSTRACT: A software which has almost unlimited amount of usage and future aspect, a software on the basis of its functionality and because of its diverse functionality and almost infinite room for growth Gesture-Wizard or **Ges-Wizard**. There are numerous possibilities which can be achieved through this application, although for now we would like to discuss about four use cases which are the foundation of this application. Now a days we see a sudden boom in the visual technologies, cameras are becoming dominant piece of technology in every field, so why not make the most out of it. Ges-Wizard Is a gesture recognizing application which not only recognizes faces, hand gestures it may also be able to use those and compute data or even control the computer with just hand gestures. Wouldn't it be great to be standing for a presentation and changing the slides of the presentation with just your hand swipes in air! Wouldn't it just amaze the people? Is it not just like a wizard!?

In computer science and language technology, Gesture recognition is a wide topic with the goal of interpreting human gestures via mathematical algorithms. Gestures can originate from any bodily motion or state but commonly originate from the face or hand. Current focuses in the field include emotion recognition from the face and hand gesture recognition.

Many approaches have been made using cameras and computer vision algorithms to interpret sign language. However, the identification and recognition of posture, gait, proxemics, and human behaviours is also the subject of gesture recognition techniques. Gesture recognition can be seen as a way for computers to begin to understand human body language, thus building a richer bridge between machines and humans than primitive text user interfaces or even GUIs (graphical user

interfaces), which still limit the majority of input to keyboard and mouse.

Keywords— Camera and Computer Vision Algorithms, Gait, Proxemics, Text User Interface.

I. INTRODUCTION

Gesture Recognition is the ability of a device to identify and respond to the different gestures of an individual. It can be seen as a way for computers to begin to understand human body language, thus building a richer bridge between machines and humans than primitive text user interfaces or even GUIs (graphical user interfaces), which still limit the majority of input to keyboard and mouse. A child is sensed by a simple gesture recognition algorithm detecting hand location and movement.

Gesture recognition enables humans to interface with the machine (HMI) and interact naturally without any mechanical devices. Using the concept of gesture recognition, it is possible to point a finger at the computer screen so that the cursor will move accordingly. This could potentially make conventional input devices such as mouse, keyboards and even touch-screens redundant.

Gesture recognition can be conducted with techniques from computer vision and image processing. Interface with computers using gestures of the human body, typically hand movements. In gesture recognition technology, a camera reads the movements of the human body and communicates the data to a computer that uses the gestures as input to control devices or applications.

For example, a person clapping his hands together in front of a camera can produce the sound of cymbals being crashed together when the gesture is fed through a computer. One way, gesture recognition is being used is to help the physically



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Intelligent Gesture Analysis, Recognition and Computation – Wizard

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²Asst. Professor of Computer Science Engineering Department, Wainganga College of Engineering & Management, Nagpur, India

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There are numerous possibilities which can be achieved through this application, although for now we would like to discuss about four use cases which are the foundation of this application.

Now a days we see a sudden boom in the visual technologies, cameras are becoming dominant piece of technology in every field, so why not make the most out of it. Ges-Wizard Is a gesture recognizing application which not only recognizes faces, hand gestures it may also be able to use those and compute data or even control the computer with just hand gestures.

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Gesture recognition can be conducted with techniques from computer vision and image processing. Interface with computers using gestures of the human body, typically hand movements. In gesture recognition technology, a camera reads the movements of the human body and communicates the data to a computer that uses the gestures as input to control devices or applications.

For example, a person clapping his hands together in front of a camera can produce the sound of cymbals being crashed together when the gesture is fed through a computer. One-way gesture recognition is being used to help the physically impaired to interact with computers, such as interpreting sign language.

The technology also has the potential to change the way users interact with computers by eliminating input devices such as joysticks, mice and keyboards and allowing the unencumbered body to give signals to the computer through gestures such as finger pointing. Unlike Haptic interfaces, gesture recognition does not require the user to wear any special equipment or attach any devices to the body.

The gestures of the body are read by a camera instead of sensors attached to a device such as a data glove. In addition to hand and body movement, gesture recognition technology also can be used to read facial and speech expressions (i.e., lip reading), and eye movements.



Ben
Principal

Reuse of PET Waste Plastic in Paver Blocks

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Under guidance of Assistant Professor, **Dipak Nakhate** Department of civil engineering, Wainganga College of
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Abstract - The aim of this project is to reduce the plastic from surrounding and to study the compressive strength of the pavement block when compared to that of convention concrete paver blocks. The dreadful conditions speed of plastic waste is also a very time-consuming process. Hence the project is helpful in tumbling plastic waste in a constructive way. In this project we have used plastic waste in different proportions with fine aggregate. The paver blocks were prepared and tested and the results were discussed.

Key Words: Pavement block, tumbling plastic waste, ceramic waste, quarry dust, coarse aggregate etc

1. INTRODUCTION

The problem of disposing and organization hard desecrate materials in all countries has become one of the main ecological, economical, and social issues. A total desecrates management system including source decrease, reuse, recycling, land-filling, and burning requirements to be implement to control the growing desecrate removal problems. Usually a plastic is not recycled into the same type of plastic products made from recycled plastics are often not recyclable. The use of eco-friendly plastics is growing. If some of these get mixed in the other plastics for recycling, the cultivated plastic is not recyclable because the variance in properties and melt temperatures. The purpose of this project is to evaluate the possibility of using granulated plastic waste materials to partially substitute for the coarse aggregate in concrete composites. As compare to other waste fractions, plastic waste deserves special attention on account non eco-friendly property which is creating a lot of problems in the environment. In India approximately 42 million tons of solid waste is produced annually. This is increasing at a rate of 1.4 to 2% every year. Plastics constitute 12.7% of total waste produced most of which is from discarded water bottles. The plastic waste cannot be disposed of by discarding or burning, as they produce unrestrained fire or contaminate the soil and vegetation.

2. METHODOLOGY

2.1 Physical property of material to be used

a. Waste plastics

A material which contains more polymers which have more molecular weight Solid are in finished state or same state while manufacturing or processing into finished articles is known as Plastic. Waste management with respect to plastic can be done by recycling. If they are not recycled then they will become big pollutants to the environment as they do not decompose easily and also not allow the water to percolate to the soil and they are also poisonous.

India generates 5.7 million metric tons of plastic waste annually. On the basis of physical properties, plastic can be classified as thermoplastic (remoulded) and thermosetting material which shares 80% and 20% respectively in total plastic waste generation. Polyethylene Terephthalate (PETE or PET), High-Density Polyethylene (HDPE), Polyvinyl Chloride (PVC), Low density polyvinyl chloride, (LDPE) Polypropylene (PP), Polystyrene or Styrofoam (PS) are some examples of thermoplastic which can be recycled and which are used for making plastic paver blocks. Plastic used for making plastic paver block is collected from various sources.

2.2 Polyethylene Plastic

HDPE is a type of polyethylene that is obtain by the natural gas ethane. When ethane is heated to 1500 degrees Fahrenheit, the molecules break apart. One of the new molecules formed is ethylene. Ethylene is a gas that becomes a resin during the process of polymerization. A polymer is a chain of molecules which forms as a product of chemical reactions involving catalysts and pressure. When ethylene molecules are polymerized, they produce polyethylene. Polyethylene and other plastic can be modified to enhance certain desired characteristics, such as flexibility, strength or imperviousness to a particular substance. Polyethylene can be manufacture into different types of plastics: Low-density polyethylene, or LDPE and polyethylene terephthalate, also known as PET or PETE.



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Intelligent Gesture Analysis, Recognition and Computation – Wizard

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²Asst. Professor of Computer Science Engineering Department, Wainganga College of Engineering & Management, Nagpur, India

Abstract— A software which has almost unlimited amount of usage and future aspect, a software on the basis of its functionality and because of its diverse functionality and almost infinite room for growth Gesture-Wizard or Ges-Wizard.

There are numerous possibilities which can be achieved through this application, although for now we would like to discuss about four use cases which are the foundation of this application.

Now a days we see a sudden boom in the visual technologies, cameras are becoming dominant piece of technology in every field, so why not make the most out of it. Ges-Wizard Is a gesture recognizing application which not only recognizes faces, hand gestures it may also be able to use those and compute data or even control the computer with just hand gestures.

Wouldn't it be great to be standing for a presentation and changing the slides of the presentation with just your hand swipes in air! Wouldn't it just amaze the people? Is it not just like a wizard!?

In computer science and language technology, Gesture recognition is a wide topic with the goal of interpreting human gestures via mathematical algorithms.

Gestures can originate from any bodily motion or state but commonly originate from the face or hand. Current focuses in the field include emotion recognition from the face and hand gesture recognition.

Many approaches have been made using cameras and computer vision algorithms to interpret sign language. However, the identification and recognition of posture, gait, proxemics, and human behaviors is also the subject of gesture recognition techniques.

Gesture recognition can be seen as a way for computers to begin to understand human body language, thus building a richer bridge between machines and humans than primitive text user interfaces or even GUIs (graphical user interfaces), which still limit the majority of input to keyboard and mouse.

Keywords— Camera and Computer Vision Algorithms, Gait, Proxemics, Text User Interface.

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Advanced Approach for Animal Recognition System Based On Convolution Neural Network

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Abstract- In this paper, the animal images are processed using convolution neural network (CNN). This method is compared with animal recognition methods like Linear discriminate analysis (LDA), Principal component analysis (PCA), Support vector machine (SVM), Local binary pattern histogram (LBPH). For many years in order to study the eco-system of the endangered species we were relying only on our physical presence. There was huge risk of life and on top of that due to the lack of the automated systems, overall data gathered was not sufficient to conduct the thorough study on the endangered species. For experimental purpose we are creating database of the animals in which there are separate class for each and every animal has 100 images.

Keywords- convolution neural network (CNN), SVM, LDA, Local binary pattern histogram (LBPH).

I- INTRODUCTION

Wildlife traditionally refers to undomesticated animal species, but has come to include all organisms that grow or live wild in an area without being introduced by humans. Wildlife can be found in all ecosystems. Deserts, forests, rain forests, plains, grasslands and other areas including the most developed urban areas, all have distinct forms of wildlife. While the term in popular culture usually refers to animals that are untouched by human factors, most scientists agree that much wildlife is affected by human activities. Humans have historically tended to separate civilization from wildlife in a number of ways including the legal, social, and

moral sense. Some animals, however, have adapted to suburban environments.

This includes such animals as domesticated cats, dogs, mice, and gerbils. Some religions declare certain animals to be sacred, and in modern times concern for the natural environment has provoked activists to protest against the exploitation of wildlife for human benefit or entertainment. The global wildlife population decreased by 52 percent between 1970 and 2014. According to a report by the World Wildlife Fund.

Wild Animal Monitoring Challenges - There are a few notable challenges in the wild animal detecting monitoring.

Data transferring - There won't be internet in the wild. We have cellular or radio. But we cannot afford sending/receiving too much data through cellular/radio channels.

AI model on a Raspberry Pi Zero - There are sophisticated AI running in a cloud. There are powerful AI models running on a desktop machine. But AI model running on a Raspberry Pi or even a RPi Zero.

Hardware reliability in the wild - Yes, wild could be really wild. The tiger is the largest cat species, most recognizable for its pattern of dark vertical stripes on reddish-orange fur with a lighter underside. The species is classified in the genus Panther with the lion, jaguar, leopard, and snow leopard. It is an apex predator, primarily preying on ungulates such as deer and bovid.

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To Study Analysis and Design of Multi-Storey building using STAAD-pro. and Comparing with Manual Calculations

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Abstract - Structural planning is an art and science of designing with economical, serviceable and durable structural. This project is generally based on theoretical design and analysis of structural framed building. The entire process of structural planning and design required imaginations, sound knowledge and thinking. Analysis and design of G+4 story residential building structure by using IS Code method. Analysis and of entire structure have been complete by manually design and verifies by STADD Pro. Software. All the drafting and detailing was done by using Auto CAD, also serve as a base for transfer of the structure for analysis and design in STAAD Pro. In this project, the design of slab, beam, column, staircase, etc. is calculated by "Limit State Method" using IS: 456-2000 code book. Different load active on the member are consider according to IS: 875-1987 (part 1, part2, part3). Hence residential building is properly planed in accordance with National Building Code of India.

Key Words: STAAD-pro, Residential, Economical, storey, AutoCAD

1. INTRODUCTION

Now a days due to the over population in the urban cities and high cost of the land, there is a need to accommodate in multi-storey building. The determination of general shape, specific dimension and size is known as structure analysis, so that it will perform the function for it create and will safely withstand the influences which will act on throughout its useful life. The entire process of structural planning and designing requires not only imaginations and calculations, but also science knowledge of structural engineering decide knowledge of particle aspect, such by-laws and design codes, backed by sample experience and judgment.

In this project, an effort made on planning, analysis and design of residential building. For analysis and design of building, the plan draft by AUTO-CAD software which plan import in STAAD Pro.

1.1 Literature Review

Ibrahim, et.al (April 2019): Design and Analysis of Residential Building(G+4):

After analyzing the G+4 story residential building structure, conducted that the structure is rate in loading like dead load, live load, wind load and seismic loads. Member dimensions (Beam, column, slab) are assigned by calculating the load type and its quantity applied on it. Auto CAD gives detailed information at the structure members length, height, depth, size and numbers, etc. STADD Pro. has a capability to calculate the program contains number of parameters which are designed as per IS 456: 2000. Beams were designed for flexure, shear and tension and it gives the detail number, position and spacing brief.

Dunnala Lakshmi Anuja, et.al (2019): Planning, Analysis and Design of Residential Building(G+5) By using STAAD Pro.:

Frame analysis was by STAAD-Pro. Slab, Beams, Footing and stair-case were design as per the IS Code 456-2000 by LSM. The properties such as share deflection torsion, development length is with the IS code provisions. Design of column and footing were done as per the IS 456-2000 along with the SP-16 design charts. The check like one-way shear or two-way shear within IS Code provision. Design of slab, beam, column, rectangular footing and staircase are done with limit state method. On comparison with drawing, manual design and the geometrical model using STADD Pro.

Mr K. Prabin Kumar, et.al (2018): A Study on Design of Multi-Storey Residential Building:

They used STADD Pro. to analysis and designing all structure member and calculate quantity of reinforcement needed for concrete section. Various structure action is considered as members such as axial, flexure, shear and tension. Pillar are delineated for axial forces and biaxial ends at the ends. The building was planned as per IS. 456-2000.



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Gesture – Wizard

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ABSTRACT: A software which has almost unlimited amount of usage and future aspect, a software on the basis of its functionality and because of its diverse functionality and almost infinite room for growth Gesture-Wizard or **Ges-Wizard**. There are numerous possibilities which can be achieved through this application, although for now we would like to discuss about four use cases which are the foundation of this application. Now a days we see a sudden boom in the visual technologies, cameras are becoming dominant piece of technology in every field, so why not make the most out of it. Ges-Wizard Is a gesture recognizing application which not only recognizes faces, hand gestures it may also be able to use those and compute data or even control the computer with just hand gestures. Wouldn't it be great to be standing for a presentation and changing the slides of the presentation with just your hand swipes in air! Wouldn't it just amaze the people? Is it not just like a wizard!?

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For example, a person clapping his hands together in front of a camera can produce the sound of cymbals being crashed together when the gesture is fed through a computer. One way, gesture recognition is being used is to help the physically



"ANALYSIS AND DESIGN OF MULTISTORED BUILDING IN HILLY AREAS USING STADD PRO"

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Abstract-

India is the most populated country in the world. The on Hill is differ from other building. The Hilly Region is pulling construction industry towards it because most of the plain land is occupied for the purpose of urbanization and industrialization. To fulfill the need of housing for population it becomes to construct multistoried building in hilly region because plain land is scarcely available in urban areas. 3D Analytical model of G+5 is multistoried residential building have been generated and analyzed by using analysis tool "STADD-pro". The drafting and detailing work is done by using drafting software AUTO-cad.

This paper is properly planed Analysis and design the D+5 Residential RCC Building Constructed in hilly region using with IS code 456-2000.

Key Words: housing in hilly areas , STADD-pro, multi storied, AUTO-cad.

1. INTRODUCTION:

Due to increasing in population now a days in hilly region we have to construct multistoried building in hilly areas.

This project is Analysis and Design of hilly area multistoried residential building [G+5] using very popular analytical and designing software STADD-pro. Reason of choosing this software is it gives accuracy of solution, versatile nature of solving of problems, confirmation of IS codes.

Building in hilly area subjected to the lateral earth pressure at various levels in addition to other normal loads as specified on building on level ground. The soil profile is not uniform and the result into total collapse of the building.

The bearing capacity, cohesion, angle of internal friction etc. this project is drafted in drafting software AUTO-cad and after the plan is import in STADD-pro.

1.1 Literature Review

Shaikh Imran, P.Rajesh (January 2017): Earth quake Analysis of RCC Building in Hilly:

The performance of irregular plan shaped building with vertical irregularity could prove more vulnerable than the regular plan shaped building with vertical irregularity. On plan ground, setback building attract less action forces as comparing with other configurations on sloping ground which make it more stable and it would not suffer more damages due to the lateral load action. On sloping ground set-step back building attract less action forces as comparing with step back building but if the cutting cost of sloping ground is with acceptable limits then setback building may be preferred. In step back building, the development of storey shear and moment and torsion were more than other configuration which found to be more vulnerable.

Mr. Tamboli Nikhil Vinod, et.al (2017): Stud Of Seismic Behavior Of Multi- Storied RCC Building Resting On Sloping Ground And Bracing System:

The height and length of building in a particular pattern are in multiple of blocks (in vertical and horizontal direction), the size of block is being maintained at 7 m x 5 m x 3.5 m. The height of all floors is 3.5m The depth of footing below ground level is taken as 1.8 m where, the hard stratum is available. The slope of ground is 27 degree with horizontal, which is neither too steep or nor too flat. Basically model consists of two bays with four groups of building configurations. The dynamic analysis is carried out using response spectrum method to the step back and step back and step back building frames. Three dimensional space frame analysis is carried out for four different configurations of buildings ranging from eight, ten and twelve storey resting on sloping ground under the action of seismic load by using E-tabs software. In these way to analysis of these system.



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BCM

Principal

Design and Fabrication of Solar E-Bicycle

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Abstract - As we as a whole realize the fuel costs as uncommonly petroleum is rising consistently step by step. Over the contamination because of vehicle in metro urban communities and urban region is expanding constantly. The sun powered helped bike created which is driven by DC engine fitted in front or back hub lodging and worked by sun powered vitality. Therefore a sun based bike is an electric vehicle that gives that elective by restricting sun based vitality to charge the battery and in this way give expected voltage to run the engine. Since India is honored with nine months of radiant atmosphere in this way idea of solar based bike is benevolent in India. This bike consolidates the utilization of solar based vitality just as the dynamo that goes through pedal to charge the battery to run the bike. Sun oriented board mounted on the carriage will charge the battery and which will turn drive the center point engine. This course of action will supplant the petroleum motor, gear box and fuel tank in a bike and makes traditional bike valuable for most normal man.

Key Words: Dynamo, Motor, Hub-motor, Travelling, Electric Bike, Electric Energy, Solar Panels, Fuel Economy.

1. INTRODUCTION

A solar based bike is a bike which runs utilizing the electrical vitality of battery to run the center point engine which eventually runs the bike. Sunlight based vitality is utilized to charge the battery. At least two Photovoltaic cells might be utilized to outfit sun powered vitality to create voltage to charge the battery. Battery gives the necessary voltage to the center point engine mounted on the front wheel to run the bike. Sunlight based bike are not sold for the most part in our regular daily existence however there assembling can be expanded to forestall ecological contamination. These are principally utilized as a functional tasks and are likewise some of the time supported by government offices. Using solar based vitality to charge the battery and joining this idea with the idea of power age accelerating is another idea and there have been less research in such manner.

Solar oriented bike utilize photovoltaic cells that convert solar based vitality into expected voltage to charge the battery. There are two kinds of solar based boards that are commonly utilized that is polycrystalline boards and microcrystalline solar based boards. There are various kinds of batteries utilized in electric vehicles like lead corrosive

batteries, lithium particle batteries, Nickel cadmium batteries, and so on. Various batteries they have their various points of interest for various applications. Undoubtedly lead corrosive and lithium particle batteries are most generally utilized. Lead corrosive batteries have lower cost, higher current conveying limit yet have littler life and are heavier. While lithium particle batteries have lower weight yet have greater expense and there are odds of explosion. The exhausting store of petroleum product made the architects and researcher to search for the sustainable power sources. On the off chance that we use solar based force for neighborhood movement, a lot of cash can be spare and we can likewise guarantee contamination free condition and contribute towards country economy. Bike being the least expensive and most advantageous method of transportation however presents issue in climbing slants. Engine cycles are not moderate for the vast majority of the ordinary citizens with expanding petroleum cost. Subsequently a bike which can be pedal just as run on a solar oriented force battery appears to be appropriate choice to tackle the issue. Sun oriented bike otherwise called solar based E-bicycle is an electric bike. An electric engine which is driven by the utilization of intensity from the battery which is being charge utilizing solar based vitality by sun powered board. Photovoltaic (PV) cells interface contain in sun powered boards convert the sun vitality legitimately into electric vitality are utilized.

2. LITERATURE VIEW

Georgia Apostolou, Angèle Reinders and Karst Geur; They have considered the term electrical bicycle or 'e-bicycle' alludes to every one of the two-wheeled electric vehicles (EVs), all the more explicitly to bikes, with various degrees of help to the client. A little electric engine and a battery-powered battery are utilized to help the force that is given by the rider. The battery can give vitality to high speeding up under hard biking conditions, for example, climbing slants and beating wind opposition, in this way broadening the scope of the excursion.

Mayur Parmar, Rushi Trivedi, Santosh Nair, Vikit Vora; The sun powered board is a photovoltaic converter which works in brilliant daylight and in diffused daylight. The DC voltage promoter saves the voltage ideal for the battery to get charged even while the voltage falls underneath limit in diffused daylight. The blockage diode utilized in the charger keeps the converse progression of current from the battery to