

## An Adaptive Image Dehazing Algorithm Based On Dark Channel Prior

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### Abstract

In this study, we provide a novel rapid alternative method for simultaneous dehaze and denoise. The suggested method begins by estimating a transmission map using a home windows adaptive strategy that is built on the renowned dark channel prior. By using this transmission map, the threshold artefact in the final image may be significantly reduced, and the estimate accuracy can be improved. Next, the transmission map is converted to an intensity map. This will be used to build the new version model, which will seek for the final picture free of haze and noise. Similarly, it is highlighted that the suggested variant model has a minimiser and that it is a strong feature. We guarantee convergence of the set of laws and design a numerical procedure based on the Chambolle-Pock set of rules. Extensive results from real-world experiments show that our technology can effectively recover high-quality, contrast-free images free of haze and noise.

**Keywords:** Dehaze, Denoise, Adaptive, Chambolle-Pock algorithm

### Introduction

The weather is terrible, and the external scenery is deteriorating due to haze, mist, fog, and smoke. It alters the tones and decreases the contrast of regular photos, it makes scenes less visible, and it poses a serious threat to the dependability of numerous applications, such as outdoor surveillance and object detection. It also reduces the clarity of satellite TV for laptop photos and underwater snapshots. Photographers find this a frustrating and annoying problem. Eliminating haze from images is therefore a highly sought-after and critical area of image processing. Light is scattered before it reaches the camera due to the vast

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amounts of these particles in the environment, which distorts the outside picture. As it mixes with additional light in the surroundings, haze weakens the meditated light from the scenes. This imagined light (i.e., scene colours) is often enhanced from mixed light by haze reduction procedures. Using this efficient haze removal of picture may also advance the visual system's consistency and power. Polarisation independent problem analysis and dark channel earlier are only two of the many methods available for removing image noise. It is common for ambient light to disperse before reaching the camera lens, and for any digital camera lens to mix with ambient light, all because of the existence of the surroundings. Picture quality deterioration, such as increased noise, reduced intensity contrast, and inconsistent colour, is unavoidable as a consequence. This kind of deterioration becomes much worse under unfavourable weather conditions, such as when there are aerosols together with haze, fog, rain, dirt, or odours. For example, fog is a common climatic phenomena that may also cause noise and ambiguity via the albedo effect. The ability to understand and extract information from the images is somewhat hindered by these occurrences. Consequently, there is an immediate need for denoising and haze removal techniques in practical applications. There is a lot of interest in imaging technology right now for dehazing and denoising images of natural scenes. The benefits of these procedures are pure. For starters, photo fusion, feature extraction, and segmentation are just a few of the many important applications that benefit greatly from haze-and noise-free photos. Secondly, the images themselves are more aesthetically pleasing and vibrant. Photo dehazing is a lot of work, nevertheless, since the haze usually depends heavily on unknown intensity data. Input

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## How Online Test Entrances Give a Helpful and Proficient Way for Associations

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### ABSTRACT

Online tests are becoming increasingly popular in the modern digital era, particularly among students and job seekers. It stresses how firms may effectively and actually recruit workers and assess competitors' abilities by utilizing on the web test locales.

The research paper aims to investigate the usefulness and efficacy of an online exam hiring portal designed to assist businesses in finding qualified applicants for open positions. The standard recruiting system, which involves ability assessments, meetings, and resume screening, is as often as possible tedious. However, online exam portals have emerged as a practical means of expediting the hiring process.

#### I. INTRODUCTION:

This study paper's opening looks at the commonplace recruiting process, which is regularly long and tedious. It involves various techniques, including screening resumes, putting together meetings, and completing ability tests. Online test entrances have, by and by, become a practical choice because of innovative progressions for smoothing out the employing system.

The use of online exam sites to find people and evaluate candidates' skills is emphasized in the introduction. Using these websites, employers can conduct tests, evaluate individuals' abilities, and select candidates for subsequent interviews. Furthermore, they give a phase to candidates to display their capacities and qualifications to possible manager.

#### I. TYPES OF PORTAL:

Online exam portals come in various types, each catering to different needs and purposes. Here are some common types of online exam portals:

##### 1. Educational Institution Exam Portals:

These portals are designed specifically for educational institutions such as schools, colleges, and universities. They provide a platform for educators to create and administer exams for their students. These portals often include features such as question banks, exam scheduling, grading systems, and result management.

##### 2. Certification and Licensing Exam Portals:

Certification and licensing bodies use these portals to conduct exams for individuals seeking professional certifications or licenses. These portals typically offer a secure environment for exam delivery, identity verification, and result reporting. They may also include features like exam preparation materials and practice tests.

##### 3. Job Recruitment Exam Portals:

These portals are used by companies and organizations to assess job candidates' skills and knowledge during the recruitment process. They offer a platform for employers to create and administer pre-employment tests, screen candidates, and evaluate their performance. These portals may include features like customizable assessments, remote proctoring, and candidate ranking.

##### 4. Online Learning and MOOC Platforms:

Some online learning platforms and Massive Open Online Course (MOOC) platforms incorporate exam portals as part of their offerings. These portals allow learners to take assessments and quizzes to evaluate their understanding of course materials. They often provide immediate feedback and progress tracking to support the learning process.

##### 5. Government and Public Service Exam Portals:

Government agencies and public service commission's use these portals to conduct exams for civil services, entrance into government positions, or other public service roles. These portals are designed to handle large-scale exams, often with strict security measures, eligibility checks, and result processing.

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**ANALYSIS OF PHYSICO-CHEMICAL PARAMETERS OF UNDERGROUND DRINKING WATER**

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**ABSTRACT**

Water is one of the precious natural resources that exist on our planet Earth. Without water, survival is not possible. In rural areas, water is an integral part of human life specially in agricultural field. Potable safe water is totally essential for healthy living. Adequate supply of fresh and clean water may be a basic requirement for all person on the planet. Due to over exploitation and poor management, the matter of beverage pollution and water quality management has assumed an awfully advanced form. Attention on pollution and its management has become a requirement of hour due to way reaching impact of it on human health. Moradabad is an industrial town, globally identified for its brass business. due to completely different varieties of human activities and speedy industry, the underground water quality is additionally badly affected. Underground beverage samples at IM2 hand pumps at fourteen completely different sites at Moradabad were collected and analyzed quantitatively following commonplace strategies and procedure to estimate the extent of contamination. Water quality physico-chemical parameters were elite as per the rules of W.H.O. Underground beverage was found to be contaminated with references to most of the parameters studied, whereas it absolutely was moderately contaminated for alternative water quality parameters studied. The studies recommend that individuals hooked in to this water are liable to health hazards of contaminated beverage and a few effective measures are desperately required for water quality management.

**Kew words:** Water pollution, physico-chemical parameter, chemical contamination

  
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**Create Teaching and Course Management Easier By Providing A Tools For Teachers**

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**ABSTRACT:**

Technology and the internet are now a necessary component of modern life in this time period. Internet is a technology that allows several computers to be connected to one another simultaneously through a network. Because it makes it simple for them to get the information they need, the internet has several advantages for students. Online learning can benefit from the internet. The "Academic Course Management System" is the name of the web-based programme that we are developing. We have created a course management system that makes use of the potential provided by technology in order to better serve teachers and students. This programme provides assignments, circulars, course modules, and many other features that enhance learning. Teachers assign work to students using this application, and after the assignment is finished, students can access it using their user name and password. The application allows students to submit their assignments. However, teachers also have a gradebook that they can use to give students grades for their homework. By giving teachers a structure and a set of tools, they make teaching and course management simpler. However, depending on the teaching-related components, it could also contain class activities, assignments, and learning objects. Academic Course Management System (ACMS) has evolved into a crucial component of higher education.

**KEYWORDS:**

Academic Course Management System, Technology, Application, Assignment, Online Learning, Students etc.

**INTRODUCTION:**

Universities have started using a variety of online learning tactics, such as learning management systems, as a result of the expansion of online learning in recent years (2013). These strategies enable students to learn independently and build problem-solving abilities. It has been noted



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## Method To Develop A Water Condensation System Supported On Thermoelectric Cooler

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**Abstract**— It is challenging to obtain water resources for irrigation or other uses in many nations, including India, due to the lack of rainfall, especially in the arid regions like deserts etc. Due to a lack of rainfall, the issue of water scarcity is also seen throughout the world. However, we can condense the airborne water vapour in areas that are very humid, such as those near the sea. The method for creating a thermoelectric cooler-supported water condensation system is described in this study. The system consists of air circulator, heat exchanger, and cooling devices. The air Water Generator is the technology that can directly transform air moisture into useful and even drinkable water. This gadget turns water vapour molecules into water droplets by using the latent heat concept. Although it has been introduced a little before, India and some other nations do not use it very frequently. In our technological age, when we are all relying on renewable resources, it has a lot of applications. This essay also discusses the outcomes of the experiment and the functionality of the system.

**Keywords**—*Thermoelectric cooler, Atmospheric moisture*

### I. INTRODUCTION

In many nations, including India, obtaining water resources for agriculture or other uses is challenging, particularly in arid regions. Finding various techniques for the generation of pure water becomes more useful to inspire many academics to study on related themes because of the lack of pure water in many locations throughout the world, particularly in the countries of the Arabic Gulf. Water is essential to life in all its facets. Water is a necessary component of life, yet it is difficult to purify, expensive to transport, and cannot be substituted. Nearly 45 crore people live in water-deficit zones across 129 nations.

Nearly 70% of fresh water is utilised for irrigation of agricultural fields, causing water conflicts between urban and rural areas. If this trend continues, by 2032, nearly half of the world's population will be experiencing a water shortage. Water wars are expected to occur in the twenty-first century. It has been noted that other parts of the world are experiencing water scarcity due to a lack of rainfall. However, we can condense the airborne water vapour in areas that are very humid, such as those near the sea. The method for creating a water condensation system based on a thermoelectric cooler is presented in this research. The system consists of cooling elements, heat exchange unit and air circulation unit.

The Atmosphere is contains large amount of water in the form of moisture, vapour etc. Within those amounts almost 30% of water is wasted. This amount of water can be used if we are able to extract the water that present in the air in the form of moisture. This Atmospheric moisture converts directly into usable and even drinkable water this is called Atmospheric Water Generator.

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## GREEN COMPUTING

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### Abstract

Green Computing is an evolving concept that encompasses the design, development, implementation, and use of information technology (IT) systems and services in an environmentally responsible and sustainable manner. It involves the use of technologies, practices, and policies that minimize the negative impact of IT on the environment while maximizing its efficiency and effectiveness. The abstraction of Green Computing can be summarized as follows: [1]

**Energy Efficiency:** Green Computing emphasizes the efficient use of energy in IT systems and services. This includes optimizing the power consumption of hardware components, such as servers, data centers, and end-user devices, through technologies such as power management, dynamic voltage and frequency scaling, and virtualization. It also involves the use of energy-efficient algorithms, software, and applications that minimize the energy consumption during processing, communication, and storage operations.

**Carbon Footprint Reduction:** Green Computing focuses on reducing the carbon footprint of IT systems and services, which refers to the amount of greenhouse gas emissions, such as carbon dioxide (CO<sub>2</sub>), generated during their lifecycle. This includes using renewable energy sources, such as solar or wind power, for powering IT infrastructure, as well as optimizing the software and network configurations to minimize the energy consumption and emissions. It also involves promoting telecommuting, virtual meetings, and cloud computing, which can reduce the need for physical travel and infrastructure.

**Environmental Monitoring:** Green Computing involves monitoring and measuring the environmental impact of IT systems and services throughout their lifecycle. This includes assessing the energy consumption, resource usage, and emissions associated with IT operations, as well as conducting environmental audits and certifications to ensure compliance with environmental standards and regulations. It also involves using environmental monitoring tools, sensors, and analytics to identify and address areas of improvement in terms of environmental sustainability.[2]



## Artificial Intelligence In Games

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Artificial intelligence (AI) has become essential for improving game playability and enhancing the game experience. Realism in modern computer games is achieved by integrating graphics, physics, and AI. The text defines a realistic game experience as the immersion of the game and the intelligence of non-player characters. Game AI allows players to interact with non-player characters and takes game experience to a higher level. The paper analyzes the history and current state of AI in game development and predicts the possible changes and impacts of AI technology based on machine learning on future game development.

Keywords—Artificial intelligence, Game experience, machine learning, INTRODUCTION

Computer game engines are constantly evolving and updating, leading to the improvement of game graphics technology. However, people are now looking for deeper game connotation beyond just beautiful visuals. Modern computer games achieve realistic experiences by integrating graphics, physics, and artificial intelligence. Realism in games is defined by the immersion of the game and the intelligence of non-player characters. A successful game needs a highly realistic artificial intelligence control system in addition to appealing visuals and sound.

All video games today use artificial intelligence (AI) in some way, except for casino games that use random number generators to ensure fairness. AI has been used in computerized games since the 1950s, with one of the earliest examples being the mathematical strategy game Nim, which the computer was able to beat human players at. The AI Ferranti Mark 1 machine was also used to write a game of checkers and chess in the same year. AI-based checkers games.

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## Knowing What Cyber security Is And How To Use It Effectively Is Essential In Today's World

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### Abstract

Knowing what cybersecurity is and how to use it effectively is essential in today's world driven by technology and connectivity. Their systems are at risk without security measures to protect important data, information, and other critical virtual assets. Every company, IT company or not, should have equal protection. As new cybersecurity technologies evolve, attackers will not be left behind. They use better and improved hacking techniques and target the weak spots of many businesses. Cybersecurity is essential for the military, government, financial, medical, and corporate organizations to collect, apply and store unprecedented information from computers and other devices. A significant portion of this information may be sensitive information such as financial information, personal property, personal information, or other information that may cause you less concern about unauthorized access or acquaintances.

### Introduction

An effective cybersecurity approach consists of multiple layers of protection deployed across a network, computer, program, or document that is designed to be non-toxic. In a community, processes, people, and equipment must be accompanied by the option to create a true defence during or after a cyberattack. A threat management organization can add anything to a variety of Cisco security products and accelerate critical security processes: detection, analysis, and remediation. The customer must respect and comply with important security information, such as choosing strong passwords, being careful with email attachments, and backing up data. Learn more about the value of cybersecurity.

### Technology

Technology plays an important role in cybersecurity as it provides tools and techniques to detect, prevent and respond to cyber threats. Here are some examples of technologies used in network security:

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## Study Using Judgmental Sampling for Select Samples From Online Shopping Users Of Ghaziabad City

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### ABSTRACT

**Examining the variables influencing consumer online shopping behaviour is the goal.**

**Design, technique, and approach:** A descriptive type of study using judgmental sampling to choose samples from Ghaziabad city's internet shoppers. The information was gathered using a questionnaire. The nonparametric test has been used for hypothesis testing after the factor analysis, which is performed to identify the factors.

**Findings -** The results of the study suggest that a number of factors, including demographic factors, social factors, consumer online shopping experience, website design, social media, situational factors, enabling conditions, product characteristics, sales promotional scheme, payment option, delivery of goods, and after sales services, play a significant role in influencing consumers' online shopping behaviour.

**Research limitations/implications –** The study outcome cannot be generalized to the all online shopping users for the reason that of small sample size and geographical location from where data is collected. Future studies may also apply some more statistical techniques to increase the conclusiveness of the answers reported in this study.

**Practical implications –** The results should be of interest to the online retailers in deciding their marketing program.

**Originality/value –** The paper is based on original work, the questionnaire has been establish reliable after checking the KMO values supports the capability of sample size. It will help the academicians and scholars in their research work in the structure of a literature on online shopping. It will also provide guidelines to online retailers in making their marketing program.

### Introduction

  
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## A STUDY ON DIGITAL MARKETING AND IT'S IMPACTS ON TRADITIONAL MARKETING

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**Abstract** - The world is shifting from analog to digital and marketing is no exception. As technology development is increasing, the use of digital marketing, social media marketing, search engine marketing is also increasing. Internet users are increasing rapidly and digital marketing has profited the most because it mainly depends on the internet. Consumer's buying behavior is changing and they are more inclined towards digital marketing rather than traditional marketing. The purpose of this review paper is to study the impact of digital marketing and how important it is for both consumers and marketers. This paper begins with an introduction of digital marketing and then it highlights the mediums of digital marketing, the difference between traditional and digital marketing, and the pros, cons, and importance of digital marketing in today's era.

**Keywords**—*digital marketing, internet, online advertising, internet marketing*

### Introduction

Marketing refers to the steps that the company takes to promote the buying of any products or services. The company seeks customers or consumers for their products or services via the help of marketing. Digital Marketing refers to the marketing of any product or service in digital form. For example, marketing using smartphones, computers, laptops, tablets, or any other digital devices. Digital marketing is a form of direct marketing that links consumers with sellers electronically using interactive technologies like emails, websites, online forums and newsgroups, interactive television, mobile communications etcetera [12].

'Digital marketing' term was first coined in the 1990s. Digital marketing is also known as 'online marketing', 'internet marketing', or 'web marketing'. It is known as 'internet marketing' because with the rise of the internet there is also high growth of digital marketing. The major advantage of digital marketing is that marketers can sell their products or services 24 hours and 365 days, lower cost, efficiency gain, to motivate the customer for more purchase and improve customer services [13]. It helps many-to-many communications because of its excessive degree of connectivity and is generally completed to sell services or products in a timely, relevant, non-public, and cost-powerful manner.

  
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## Facial Recognition using Artificial Intelligence and Machine Learning Techniques

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### Abstract:

In the era of modern technologies emerging at rapid pace there is no reason why a crucial event in educational sector such as attendance should be done in the old boring traditional way.

Attendance monitoring system will save a lot of time and energy for the both parties students as well as the class teachers. Attendance will be monitored by the face recognition algorithm by recognizing only the face of the students from the rest of the objects and then marking them as present. The system will be pre feed with the images of all the students and with the help of this pre feed data the algorithm will detect them who are present and match the features with the already saved images of them present in the database.

**Keywords:** Machine Learning, Decision Tree, Random Forest, K Nearest Neighbour.

### 1.Introduction:

The purpose of the attendance monitoring system using face recognition is to ease the attendance process which consumes lot of time and efforts , it is a convenient and easy way for students and teacher. The system will capture the images of the students and using face recognition algorithm mark the attendance in the sheet. This way the class-teacher will get their attendance marked without actually spending time in traditional attendance marking.

The identification process to determine the presence of a person in a room or building is currently one of the routine security activities. Every person who will enter a room or building must go through several authentication processes first, that later these information's can be used to monitor every single activity in the room for a security purpose. Authentication process that is being used to identify the presence of a person in a room or building still vary. The process varies from writing a name and signatures in the attendance list, using an identity card, or using biometric methods authentication as fingerprint or face scanner.

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## Smartphone based Accident Avoidance System while Driving

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### ABSTRACT

Every year, innumerable road accidents and deaths take place due to distracted driving. Large number of studies shows mobile phone usage while driving was the major reason for distracted driving. With the aim of preventing road accidents due to mobile phone usage while driving, we propose a highly efficient automatic electronic system for early detection of incoming or outgoing call, an antenna located on the top of driver seat used for detecting when the driver uses mobile phone and a low range mobile jammer with its range covers only driver seat which prevent drivers mobile phone from receiving signals from base stations.

Due to distracted driving, countless road accidents and fatalities occur each year. Large amount of research show utilization of mobile phones while driving was the main cause of distracted driving. In order to avoid road accidents due to the usage of mobile phone while driving, we proposed a highly efficient automatic electronic system for early detection of outgoing or incoming call, an antenna situated at the top of driver seat used for detection when the driver uses a mobile phone and a small range mobile jammer that prevent to receive signal in driver mobile phone from base stations.

A wireless jammer is an instrument used to prevent cellular phones from receiving signals from base station. Jammer effectively disables cellular phones. Jammer can be used practically in any location, but are found primarily in place where a phone call would be particularly disruptive where silence is expected. In the existing system when the jammer is in "ON" state, the signal from the base station to the particular mobile phone will be blocked where in the proposed system a message notifying who has been tried to contact the user is send to the user as a notification when the jammer is in "ON" state. So it is a kind of anti-jamming technique. This kind of technique can be implemented in vehicles such that

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## Some Advances In Technologies Concerning Pc- Aided Mastering That Promises To Appreciably Exchange The Techniques Of Teaching And Learning

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Recent technological developments in computer-assisted learning have the potential to significantly alter teaching and learning methods in the field of education. Within the academic network, the world wide web has played a significant role in the storing and diffusion of records. The lecturer typically delivers course materials in a specified location at a specific time during traditional classroom-based training. As a result, it places time and location restrictions on both the teacher and the student. Due to human issues arising from the traditional classroom setting, the lecturer won't always be able to put out their best effort in preparing and distributing instruction materials. There may also be inconsistencies inside the pedagogy and learning style because of repetitive nature of coaching/gaining knowledge of. The objective of this paper is to broaden a virtual class room device to beautif ystudyingoncampus. Thesystembecomeevolvedthenseof personalhomepageand MySQLasserverfacep rogrammingandddatabaserespectively. The web-primarily based digital study room presents a web enabled interactive model for e-gaining knowledge of wherein the path cloth is supplied using multimedia and hypermedia.

**Keywords:** digital study room, e-getting to know, multimedia, training, online.

### 1 INTRODUCTION

E-learning has been widely recognized as a valuable tool for learning and education because to the rising use of network computers, the internet, and developments in telecommunications technology [1]. In several emerging nations, the traditional model of higher education continues to rule the colleges. Teachers and students frequently experiment with novel information construction approaches as a result of the massive growth of e-learning [2]. The World Wide Web (WWW) is the contemporary academic technology that is being studied in-depth. The ability to quickly access the WWW, which serves as a platform for the storage and diffusion of information, is essential to the educational network. The fact is that the transition from virtual

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## Analyze Medical Information From Various Sources, Including Medical Journals, Research Papers, And Other Reputable Sources

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### Abstract

The Medicare is a platform that provides comprehensive information on various health conditions, diseases, and disorders. The platform utilizes technology to gather and analyze medical information from various sources, including medical journals, research papers, and other reputable sources.

The platform offers users a user-friendly interface, making it easy to navigate and access information about various diseases and their symptoms, causes, treatments, and prevention measures. Users can search for specific health conditions or browse through the platform's vast database of health-related topics.

The platform is designed to offer reliable and up-to-date information to users, enabling them to make informed decisions about their health. It is also an excellent resource for healthcare professionals looking to expand their knowledge and stay current with the latest medical research and treatment options.

Overall, the Medicare is an invaluable resource for anyone looking to learn more about various health conditions and diseases. Its user-friendly interface, vast database of health-related topics, and reliable, up-to-date information make it an essential tool for healthcare professionals and individuals seeking to take charge of their health.

### Keywords

Online, Detail, Health, Diseases, Medical, Condition, Disorder, Symptoms, Prevention, causes.

### Introduction

The Medicare conditions is an innovative platform that provides a wealth of information on colorful health conditions, conditions, and diseases. With the growing significance of health and heartiness in moment's society, the need for accurate and dependable health information has

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## Design And Implementation of A Virtual Classroom System

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### Abstract

Within the last few a long time, training has witnessed some advances in technologies concerning pe- aided mastering that promises to appreciably exchange the techniques of teaching and learning. The arena wide internet has performed a major function in records storage and dissemination within the academic network. Conventional classroom primarily based coaching includes the delivery of course materials by means of the lecturer in a specific area at a defined time. Hence it imposes a constraint of time and place on both the instructor and the pupil. Because of human issue bobbing up from the conventional classroom approach, the lecturer won't continually be able to installed most excellent effort towards getting ready and handing over direction substances. There may also be inconsistencies inside the pedagogy and learning style because of repetitive nature of coaching/gaining knowledge of. The objective of this paper is to broaden a virtual classroom device to beautify studying on campus. The system become evolved the use of personal home page and MySQL as server facet programming and database respectively. The web-primarily based digital study room presents a web enabled interactive model for e-gaining knowledge of wherein the path cloth is supplied using multimedia and hypermedia.

**Keywords:** digital study room, e-getting to know, multimedia, training, online.

### 1 INTRODUCTION

With the increasing use of network computers, the net and advances in telecommunication generation, e-gaining knowledge of has been broadly identified as a precious device for gaining knowledge of and schooling [1]. The conventional way of higher training has remained dominant in colleges in some developing countries. With the big boom of e- mastering, teachers and students usually explore new methods of constructing information [2]. The current technology being closely researched as an academic platform is the sector extensive net (WWW). The WWW which represents a platform for facts garage and dissemination may be accessed in minimal time, and this is very critical to the instructional network. The fact is that the transition from virtual divide society to a global village information society causes the traditional educational version to be unable to cover the academic needs of cutting-edge societies. The globe

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### Experimental Studies on Utilization of Biogas with Biodiesel/Diesel Blends in a CI Engine

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**Abstract:** The utilization of raw biogas for the current study of gaseous alternatives for diesel engines. Due to the fact that gaseous fuel cannot burn by compression, biogas cannot be used alone to power a diesel engine. It can be given to CI engines that are running on dual fuel by combining air and biogas in a system. In order to create a homogeneous mixture, the venturi gas mixer device used in this study produces a diesel engine that burns biogas, biodiesel, and diesel. On the performance and emission characteristics of the dual-fuel engine in contrast to diesel, experimental research was conducted. The results demonstrated that biogas introduced at a flow rate of 1L/min functioned better and generated less emissions than biogas introduced at other flow rates. However, the dual-fuel mode with a BD10 BG@ 1L/min biogas flow rate showed an average drop in BTE of 9.94% and an average increase in BSFC of 8.82% when compared to diesel. CO and HC emissions are up 5.18 and 3.01 percent, respectively, in comparison to diesel, but NOx emissions are down 14.91 percent on average.

**Keywords:** Alternative Fuel, Biogas, Biodiesel, Diesel Engine, Dual-fuel, Venturi Gas Mixer

#### 1. Introduction

India, one of the fastest-developing nations with steady economic expansion, has a multiplicative effect on the need for transportation. This demand directly relates to fuel usage. Due to a lack of fossil fuel sources, India relies heavily on imported fuels, which has a significant impact on the country's economy. Biodiesel may now be extracted at reasonable costs and quantities thanks to recent research and studies. The combination of fossil diesel and biodiesel offers several advantages, including lower pollutants, improved engine performance, greater cetane ratings, less wear on the engine, low fuel use, and reduced oil usage. It is evident that using bio-diesel boosts the engine's efficiency. The Indian economy will be greatly impacted by this. Diesel fuels have a significant impact on a nation's industrial sector.

The objective of this paper is to eliminate biodiesel with the other fuels the percentage in biodiesel blend of algal biodiesel indicates suffix B20 numerical. The percentage of algal



## A Study of the Impact of AI on the Job Market

More opportunities & more threats

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### Abstract

The research paper "A Study of the Impact of Artificial Intelligence on the Job Market" aims to analyze the effects of artificial intelligence (AI) on the job market. The study examines the various ways in which AI is being used in different industries and the implications of this for the job market. The paper looks at the impact of AI on different types of jobs and the potential for job displacement due to automation. Additionally, the study investigates the potential for the creation of new job opportunities as a result of AI. Finally, the paper explores strategies for individuals and organizations to adapt to the changing job market and the role of education and training in preparing for the future of work in the age of AI.

**Keywords:** *Employment, Artificial intelligence, Productivity, AI adoption, Dependence on technology*

### I. Introduction:

Artificial Intelligence (AI) is rapidly transforming industries and revolutionizing the way we live and work. From self-driving cars to intelligent chatbots, AI is changing the way businesses operate and creating new opportunities for innovation. However, the rise of AI has also raised concerns about its impact on the job market. As AI becomes more prevalent, there is a growing fear that it will lead to job displacement and unemployment.

This research paper aims to examine the impact of AI on the job market. The study analyzes the various ways in which AI is being used in different industries and the implications of this for the job market. The paper looks at the potential for job displacement due to automation and the



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## CS HISTORY AND EDUCATION HOLD CULTURAL AND SPIRITUAL VALUE

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### Abstract –

The author examines how computer science history can serve a cultural and spiritual purpose in higher education, emphasizing the importance of developing a broad and interdisciplinary knowledge base to foster comprehensive talent in computer science. The author also explores the integration of humanistic education and science education in computer education, ultimately proposing a curriculum system that aims to cultivate students' innovation abilities and overall quality, with specific methods for incorporating humanistic education into computer science education.

### Introduction –

Computer science has a significant impact not only on the development of productive forces as a form of material progress, but also on the development of people's ideology as a form of intellectual progress. Those who are passionate about the study and pursuit of science should recognize the cultural and spiritual value of computer science history, not just in terms of its impact on productive forces but also on ideology. The birth, evolution, and development of computer science theories reflect scientists' methods of thinking and research, which is more valuable than specific knowledge.

In modern higher education, a comprehensive science education should encompass two aspects: the imparting of specific scientific knowledge and methods, as well as the cultivation of abstract scientific thoughts and

spirits. While the former represents the body of science education, the latter represents its soul.

In other words, higher education should not only teach students what to think, but how to think. Computer science history serves as an effective means of instilling scientific thoughts

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## Web service gateway in e- commerce

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### Abstract

We introduce a mechanism about web service gateway which are present in web sites. In future the business to business market exists through the internet e- business. In this process we are try to solve a problem that already present information sources in current internet environment. Websites were developed for the help of users but they are not understand machine language. To reduce this gap we use a system to remove existing presentation- orientated websites.

Initially web Service Gateway developed in Toshiba. Web service gateway developed via a generator and that generator called web service generator, which helps to produce web services wrappers. Features of web services like UDDI publishing connected to each other as a business to business architecture for provide services to end users.

**Keywords:** web service gateway, e-commerce, web service wrapper, Generic wrapper

### Introduction

The internet's success doesn't allow only connection of computers but also provide new way to carry out business transactions. In former days we have to go outside for shopping anything and for this we waste lots of crucial time. But now a day's people are busy and even have not enough time to go shopping outside [10][11][12]. So this internet comes to market. Though internet custom of website start now you have various websites like my aka, flip kart etc. through which you can easily buy desired things online you not have to go outside. You can easily shopping in your house. Websites not only cosmonautic things but also available for grocery.

Not only for these websites are also developed for banks. Banks hires developers for developed websites for them. These are only possible thorough web services gateway. You can see that usage of websites increases day by day due that Web Development come rapidly in market. Web Development [7] is the work which involved developing websites for internet. Web development usually refers to main design aspect of building websites.

It's the Maintenance of websites.

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## **E-COMMERCE (Selling and Buying Product)**

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### **Abstract**

The term E-commerce refers to electronic commerce. In recent technology E-commerce is a boom in modern society. E-commerce provides buying and selling of goods and services or the transmitting of funds and data, through an electronic network, primarily the Internet [8].

E-commerce is a model shift which is influencing both marketers and the customers. E-commerce is another way to boost the existing business practices through network. It is a revolution in traditional way business to modern business. This significant change in business model occur growth in all around the global not only in India. E-commerce majorly help to start ups.

E-Commerce has also provide a significant role in the environment. Although the model is highly used in current business scenario but the option has not been explored at its brimful. The recent research has been undertaken to describe the scenario of E-Commerce, analyze the trends of E-Commerce. The study further examines the key variables imperative for the success of E-commerce business models.

**Keywords** - e-commerce, e-business, B2B, B2C, C2C.

### **Introduction**

E-commerce involves carrying on a business with the help of the internet and by using the information technology like Electronic Data Interchange. E-commerce boost their strategic abilities worldwide. From the communications point of view, E-commerce represent information, services as well products or online payments through internet, computer networking. E-commerce implements technology for automating corporate transactions and workflows from a business process perspective. This technology is adopted by many business companies prior level [1]. From a service viewpoint, E-commerce provide a way of low cost of

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## TEXT RECOGNITION IN IMAGES AND CONVERTING RECOGNIZED TEXT TO SPEECH

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### Abstract

Around 285 million people worldwide are visually impaired, including close to 39 million blind people. This has a significant impact on the lives of persons who are blind or visually impaired. Even though numerous attempts have been made to assist those who are blind in seeing objects through alternate senses like touch and sound, text-reading technology is still in its infancy. The system in use right now is either constrained in its application or expensive to maintain. Therefore, we require a system that can automatically recognize and read aloud text to a user base of visually impaired people that is both affordable and truly efficient. The main goal of this research is to develop a program that can identify text characters from turn any natural image into a voice signal. The programmes need to carry out the identical action for any uploaded image and PDF file. The application should also have tools for pace modulation, voice choosing options, and storage capability for image to text output. The target audience for this programme can be expanded to include people with special needs who also have learning impairments, young children, and several other societal groups. The text is extracted from the image using optical character recognition (OCR), and the Windows API is utilised to turn the text into speech. The programming language for digital image processing is MATLAB.

**Key Words:** Digital image processing, optical character recognition, speech modulation, MSER Regions, stroke width algorithm, and image character recognition are some of the terms used in this document.

### 1. Introduction

A popular area of computer technology is image-to-speech conversion. It establishes a crucial factor in how we engage with the system and interfaces on many platforms. It has long been a goal to replicate human abilities like reading through machines.

Machine reading, however, has developed from a pipe dream to a reality during the past 50 years. The most effective form of human communication is most likely speech. One of the



**“AHASHVA: WHERE EVERYTHING ENDS FOR A NEW START”**

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**ABSTRACT**

Shiva is something where everything ends not to end but to a new start. Shiva means nothing (zero) but also everything (Infinite). He is considered as zero because he is completely in a systematic as well as ideal state. Shiva is shine also as dark, Shiva is coolest, Shiva is hottest, Shiva is horrible as well as handsome. If something is beautiful is considered to be shiva. If someone is living he is Shiva and If someone is dead, he is in Shiva. Shiva has been a very mysterious, gullible and charismatic god in Hindu religion; he is considered the destroyer of evil and very well known for his soft hearted nature. Amish in his novel 'Immortals of Meluha' presented him as a common human being who encounters very strange happening in his life and he suddenly becomes the centre of attraction. The present paper tries to explore his qualities like foresightedness, loyalty, team spirit and empathy which ultimately make him an extraordinary leader who sets an example before everyone. It throws light on his journey from an ordinary tribal leader to the Neelkanth who faces lots of personal and worldly problems, overcomes them and finally destroys them.

**KEY WORDS:** Charismatic, Religion, Foresightedness, Empathy, Leader, Destroyer, Evil

**INTRODUCTION:**

According to Shiva Purana, Shiva or Maheshwar is the creator of Maya. That is, the Supreme Lord Shiva is beyond everything. He is immaculate, omniscient, above the three modes of nature and the ultimate Supreme Brahman. He is unborn and he is the origin of all. He is worthy of all the praise and is the guardian of his subjects, the god of the gods and worshipped by the entire world. According to Shiva Purana, Shiva is the sustainer and destroyer of the universe, he is the saguna-nirguna and the nirvikar Parabrahman Paramatma in the form of true and divine nature.

According to Shiv Puran, Shiva himself tells Lord Vishnu, "O Vishnu, I am the source of creation, protection and destruction of the universe. I am the cosmic work divided into Trimurti and I am present in three forms and hold together Brahma and Vishnu." According to Shiv Purana, Shiva is anywhere and everywhere, so there is no point in asking who is Shiva? Or what is Shiva? All this is just the result of limited thinking of our narrow thoughts. Shiva has just taken a form to be accessible to humans. Indeed, Shiva is omnipresent, omniscient and omnipotent.

**Nothing in this world is left out of Shiva's life. He is so complex and so complete.**

That was the first act of Zen. Nothing in this world is left out of Shiva's life. He is so complex and so complete. And he did not have a teaching, he only had methods, and these methods are one hundred percent scientific in nature. He gave 112 ways in which a human being can attain because there are **114 chakras** in the human system, but two of them are

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## MEDI-MINE: Daily Medicine Reminder Application

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### Abstract:

Good Health is a secret of every human being. Since the very beginning, Health is a matter of great concern. Some have to, without a choice, maintain a healthy lifestyle by taking medicines. Many patients find it difficult to take medicines at a proper time due to various reasons such as forgetfulness, busy schedule, old age, etc. This happens most commonly with the people taking medicines daily which results in medical non-adherence. Medical Non-adherence is a very serious issue as it can lead to various health-related problems. The advancement in mobile technology has enabled various techniques to solve these types of problems by designing and developing an application which patient will find it easy to carry along. In this paper, we aim to build an Android-based application, that will cover major features such as Medicine Reminder, Medicine Restocking Alert, Alarm System, etc. This system has a rich GUI and easy navigation which can be used by people of every age. This app will have a positive impact on people as it will act as a companion that can display reminders and notify the user to take the pills on time supporting medical adherence and improving health.

**Keywords:** Medicine Reminder, Android App, Medication Adherence, Alarm System.

### INTRODUCTION

There is a well-liked saying that health is wealth. Health is one of the foremost important things for many individuals, just because not having healthy life can cause a miserable life. Health care is a basic need of each person. The category of patients involves all citizenry - teachers, students, businessmen, housewives, children, and senior citizens. Today's life is filled with responsibilities and stress. So, people are susceptible to diseases of various types and we must make ourselves stay fit and healthy. People these days are very busy in their daily routine life schedule. If they're affected by any disease/illness then they must require the right medicines in proper quantity at the proper time. For this purpose, there should be some resource for the patients which can remind them about their medicine intake schedule.

Nowadays, everything is technology-driven and we rely on gadgets especially smartphones. Today Everyone uses a smartphone. Mobile Applications have made our lives much easier and luxurious. The most widely used facility in mobile phones is Reminders. People use Reminders for pretty much everything because of the busy schedule that they have.



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### **Web 3.0: The Future of Internet :A review paper**

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#### **Abstract**

*The emergence of Web 3.0 has paved the way for a new era of the internet, where data ownership, privacy, and personalization take centre stage. In this paper, we explore the concept of a web and future of it, which involves a more intuitive and interactive web experience that prioritizes user control and agency. We discuss the various technologies and frameworks that including blockchain, Artificial intelligence, and machine learning. Additionally, we examine the challenges of web3.0 and its formula, particularly in the areas of data collection and security. The way we conduct research and interact with the internet, and it represents a crucial step forward in the evolution of the web and promoting the use of web 3.0.*

**Keywords:** *Web3.0, Blockchain, Artificial intelligence, decentralized.*

#### **I Introduction:**

In the 1980s, British scientist Tim BernersLee created the World Wide Web while working at CERN, the European Organization for Nuclear Research [1]. Berners-Lee developed the concept of hypertext, which allows users to navigate between different documents via hyperlinks. At the end of 1990, Tim BernersLee proved his idea and ran the first web server and browser at CERN. He developed the web server's code on a NeXT computer. To prevent it from shutting down, the computer has a note written in red ink: "This machine is a server. Do not turn off the power!!".

Internet growth was recorded at 342.2 percent in years from 2000 to 2008, indicating the importance of the Internet for people [2]. The way people communicate, work, and live has been completely transformed by the Internet and the World Wide Web. The web is the best medium for collecting and disseminating information in the fastest and cheapest way. The web has changed our daily lives, changing the way students, teachers and companies work.

We have now discussed the many web generations and their shortcomings. Web 1.0 was a very basic platform. Web 1.0 features static information that is more challenging to update. Considerably more accurate and informative. It essentially only contained read-only messages [3], but not a very good talk. Web 1.0 is not more creative and useful. As I exploring about web 1.0 is all about getting information and reading.

The emergence of the next generation of the web, known as Web 2.0, promises to revolutionize the internet yet again by introducing a more interactive and collaborative online experience [4].



## Door a payment gateway and Wallet

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**ABSTRACT:** Overall, this research paper aims to provide currency payment gateways on the adoption of digital currencies in mainstream commerce.

As the use of Crypto currencies continues to grow, the need for reliable and secure payment gateways for Crypto currency transactions becomes increasingly important. This research paper aims to provide an in- depth analysis of Crypto currency payment gateways and their importance in the world of digital currencies.

The paper will discuss the working mechanism of crypto currency payment gateways, including the process of sending and receiving Crypto currency payments. It will also examine the security aspects involved in Crypto currency transactions and the measures taken by payment gateways to ensure the safety of user funds.

The research paper will also explore the different types of Crypto currency payment gateways available in the market, including custodial and non-custodial options. It will analyze the advantages and disadvantages of each type of gateway and how they can be integrated into different online platforms.

Furthermore, the paper will discuss the challenges faced by crypto currency payment gateways, such as regulatory compliance and the volatility of crypto currency prices. It will also examine the potential impact of crypto currency payment gateways and their role in facilitating secure and efficient crypto currency transactions.

### **Introduction: -**

Our project called The Door is a payment gateway that enables users to send crypto currency securely and quickly to another party.

The necessity for dependable and secure payment gateways for crypto currency is growing as it becomes more and more popular, which is where DOOR come in to help with the transfer.

Using DOOR, Users can send and receive various Crypto currencies like Ethereum, Bit coin, XRP and Bitcoin Cash etc. The main issues with crypto currencies are privacy and security. We leveraged the power of blockchain technology to guarantee the security of the transactions, making them more secure than traditional electronic transactions and resistant to hacking and other fraudulent acts. The functioning of crypto currency payment gateways, including the sending and receiving of crypto currency payments will be covered in the paper. Additionally, it will look at the security precautions payment gateways take to protect user money during crypto currency transactions.



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### Online Exam Hiring Portal

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#### ABSTRACT:

This abstract discusses the increasing popularity of online exams in today's digital age, particularly among students and job seekers. It highlights how online exam portals provide a convenient and efficient way for organizations to recruit talent and assess the skills of candidates.

The research paper aims to explore the effectiveness and usability of an online exam hiring portal specifically designed to assist organizations in finding suitable candidates for their vacancies. The traditional hiring process, which involves resume screening, interviews, and skill assessments, is often time-consuming. However, online exam portals have emerged as a viable solution to streamline the recruitment process.

#### I. INTRODUCTION:

The introduction of this research paper discusses the traditional method of hiring candidates, which is often lengthy and time-consuming. It involves various steps such as resume screening, scheduling interviews, and conducting skill assessments. However, with the advancement of technology, online exam portals have emerged as a solution to streamline the recruitment process.

The introduction highlights that online exam portals provide a convenient and efficient way for organizations to recruit talent and assess the skills of candidates. These portals enable recruiters to conduct assessments, evaluate candidates' skills, and shortlist them for further rounds of interviews. Additionally, they offer a platform for candidates to showcase their skills and qualifications to potential employers.

#### i. TYPES OF PORTAL:

Online exam portals come in various types, each catering to different needs and purposes. Here are some common types of online exam portals:

# Artificial Intelligence and Machine Learning Techniques for Face Recognition

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## Abstract

There is no justification for handling an important educational event like attendance in the antiquated, tedious manner in the age of rapidly advancing current technologies. Both the pupils and the class teachers will benefit greatly from the time and energy savings provided by the attendance monitoring system. The face recognition algorithm will keep track of attendance by identifying each student's face apart from the other objects and marking them as present. All of the students' photographs will be pre-fed into the system, and using this pre-feed data, the algorithm will identify the students who are there and compare their attributes to previously saved images of them present in the database.

**Keywords:** Machine Learning, Decision Tree, Random Forest, K Nearest Neighbour.

## 1. Introduction:

The purpose of the attendance monitoring system using face recognition is to ease the attendance process which consumes lot of time and efforts, it is a convenient and easy way for students and teacher. The system will capture the images of the students and using face recognition algorithm mark the attendance in the sheet. This way the class-teacher will get their attendance marked without actually spending time in traditional attendance marking. The identification process to determine the presence of a person in a room or building is currently one of the routine security activities. Every person who will enter a room or building must go through several authentication processes first, that later these information's can be used to monitor every single activity in the room for a security purpose. Authentication process that is being used to identify the presence of a person in a room or building still vary. The process varies from writing a name and signatures in the attendance list, using an identity card, or using biometric methods authentication as fingerprint or face scanner.



## 2. Literature survey:

| YEAR | AUTHOR  | OBJECTIVES   | METHODOLOGY   | FINDINGS   | PROBLEMS   |
|------|---|--|---|--|--|
| 2017 | Monica C, Nitesh B, Prachiya X, Soojan K, U. D. M. Kausikashila | Data of student has been computerized without using any manual effort. | The design is expressed in sufficient detail so as to enable all the developers to understand the underlying architecture of Attendance system. | The Existing system is a manual entry for the Admin and also Faculty. Here the attendance will be carried out in the hand written registers. Maintaining the records for the Faculty is a tedious job. | The requirements for the Software to work are much (Python, Tomcat, My SQL) etc. |

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## IMAGE2SPEECH- TEXT RECOGNITION IN IMAGES AND CONVERTING RECOGNIZED TEXT TO SPEECH

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### Abstract :

*Around 285 million people worldwide are visually impaired, including close to 39 million blind people. This has a significant impact on the lives of persons who are blind or visually impaired. Even though numerous attempts have been made to assist those who are blind in seeing objects through alternate senses like touch and sound, text-reading technology is still in its infancy. The system in use right now is either constrained in its application or expensive to maintain. Therefore, we require a system that can automatically recognize and read aloud text to a user base of visually impaired people that is both affordable and truly efficient. The main goal of this research is to develop a program that can identify text characters from any natural image into a voice signal. The program needs to carry out the identical action for any uploaded image and PDF file. The application should also have tools for pace modulation, voice choosing options, and storage capability for image to text output. The target audience for this programme can be expanded to include people with special needs who also have learning impairments, young children, and several other societal groups. The text is extracted from the image using optical character recognition (OCR), and the Windows API is utilised to turn the text into speech. The programming language for digital image processing is MATLAB.*

**Keywords:** Digital image processing, optical character recognition, speech modulation, MSER Regions, stroke width algorithm, and image character recognition

### Introduction :

A popular area of computer technology is image-to-speech conversion. It establishes a crucial factor in how we engage with the system and interfaces on many platforms. It has long been a goal to replicate human abilities like reading through machines. Machine reading, however, has developed from a pipe dream to reality during the past 50 years. The most effective form of human communication is most likely speech. One of the most popular uses of technologies in the fields of pattern recognition and artificial intelligence is optical character recognition.

The tool assists in converting textual information that is embedded in an image or scene into speech. This is not the only use it may be put to. It is beneficial to take text from PDF files and turn it into speech. All of the collected text can be stored as a text file in any location on the computer. While the text is being read aloud, it also offers the option to look up synonyms for words. Different paces may be comfortable for users to comprehend the language. As a result, a clause is added that allows for speech tempo modulation. Additionally, users can select from a variety of male and female speakers' voices as well as accents.

OCR, or optical character recognition, is a technique we use to extract text from

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# Artificial Intelligence and Machine Learning Techniques for Face Recognition

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## Abstract

There is no justification for handling an important educational event like attendance in the antiquated, tedious manner in the age of rapidly advancing current technologies. Both the pupils and the class teachers will benefit greatly from the time and energy savings provided by the attendance monitoring system. The face recognition algorithm will keep track of attendance by identifying each student's face apart from the other objects and marking them as present. All of the students' photographs will be pre-fed into the system, and using this pre-feed data, the algorithm will identify the students who are there and compare their attributes to previously saved images of them present in the database.

**Keywords:** Machine Learning, Decision Tree, Random Forest, K Nearest Neighbour.

## 1. Introduction:

The purpose of the attendance monitoring system using face recognition is to ease the attendance process which consumes lot of time and efforts, it is a convenient and easy way for students and teacher. The system will capture the images of the students and using face recognition algorithm mark the attendance in the sheet. This way the class-teacher will get their attendance marked without actually spending time in traditional attendance marking. The identification process to determine the presence of a person in a room or building is currently one of the routine security activities. Every person who will enter a room or building must go through several authentication processes first, that later these information's can be used to monitor every single activity in the room for a security purpose. Authentication process that is being used to identify the presence of a person in a room or building still vary. The process varies from writing a name and signatures in the attendance list, using an identity card, or using biometric methods authentication as fingerprint or face scanner.



## 2. Literature survey:

| YEAR | AUTHOR                              | OBJECTIVE  | CONCLUSION  | PROBLEMS   |
|------|-------------------------------------|--|---|--|
| 2017 | Shreyas N. S. & Pratik S. S. (2017) | Data of student fees been computerized without using any manual efforts. | The design is expressed in sufficient detail so as to enable all the developers to understand the underlying architecture of Attendance System. | The Existing system is a manual entry in the Admin and staff faculty. Here the attendance will be carried out in the hand written registers. Maintaining the records for the faculty is a tedious job. |

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## Research Paper on Biometrics Security System

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**Abstract:** - A biometric security system is a technology-based authentication system that uses unique physiological or behavioural characteristics of an individual to verify their identity. Biometric systems are considered more secure than traditional authentication methods, such as passwords and PINs, because they are difficult to replicate or steal. Biometric systems can use a variety of traits for identification, including fingerprints, facial recognition, voice recognition, iris and retina scans, and even behavioural biometrics like gait or typing patterns. Biometric systems are used in a variety of applications, such as physical access control, time and attendance tracking, and online authentication. However, biometric systems also raise concerns about privacy, security, and the potential misuse of personal data. As technology continues to advance, biometric security systems are expected to become even more prevalent in various industries and applications.

**Introduction:** - Biometric security systems have become increasingly prevalent in today's digital age, as individuals and organizations seek more secure ways to authenticate identity and protect sensitive data. The word Biometrics originates from the Greek arguments "bios" (life) and "metrikos" (measure). Strictly talking, it refers to a discipline connecting the statistical examination of biological characteristics.

These systems rely on unique physical or behavioural characteristics of an individual to verify their identity, providing a higher level of security than traditional authentication methods such as passwords or PINs. The use of biometric security systems has expanded into a wide range of applications, including physical access control, time and attendance tracking, and online authentication. However, while biometric technology offers many benefits, it also raises concerns about privacy, security, and the potential misuse of personal data. As the technology continues to evolve, the use of biometric security systems is expected to become even more widespread. Therefore, it is crucial to

conduct research that explores the effectiveness and reliability of these systems, as well as the ethical and legal considerations that come with their use. This research aims to provide a comprehensive overview of biometric security systems, including their applications, advantages, and potential limitations. Additionally, it will examine the legal and ethical issues surrounding biometric technology, as well as explore current research and future directions in the field. By conducting this research, we can better understand the benefits and risks of biometric security systems and help ensure that their use is responsible and effective.

### **Biometrics:** -

#### **Definition:** -

Biometric systems are a type of authentication system that use unique physiological or

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## Computer based Hospital Management

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### ABSTRACT

*The hospital's operations are managed and automated by the abstract hospital management system, which is a sustaining system. It deals with gathering patient data, including diagnosis specifics, etc. The system's primary purpose is to register, store, and retrieve patient and doctor information as needed, as well as to change this information in a useful way. While system output is to display these details on the screen, system input contains patient and diagnosis-specific information. With the use of a login and password, one can access the Hospital Management System. A receptionist or an administrator can access it. They alone are able to add data to the database. The information is simple to retrieve. The processing of personal data is made possible by the data's high level of security. A hospital or healthcare facility's internal healthcare operations can be streamlined and automated with the use of hospital management systems (HMS), which are computer-based information management systems. An outline of HMS's advantages, difficulties, and potential solutions is given in this study. Patient registration, admission, discharge, billing, inventory management, medical records management, and appointment scheduling are just a few of the features integrated within the comprehensive HMS system. The technology increases hospital operations' efficiency, lessens paperwork, and eliminates errors, resulting in better patient care. HMS offers patients and healthcare professionals a number of advantages. It makes it easier for doctors to quickly and accurately retrieve patient information so they can decide how best to treat their patients. Additionally, the system optimises patient safety, fosters collaboration among healthcare professionals, and provides a platform for data analysis.*

**Keywords-** Hospital management, Healthcare facility, Dealing patients

### INTRODUCTION

A hospital's everyday operations are managed and maintained by a software programme called a hospital management system (HMS). In order to provide effective and efficient management of the hospital's resources, the system assists in managing the medical, administrative, financial, and legal aspects of a hospital. The HMS has a number of modules, including ones for staff management, pharmacy management, appointment scheduling, medical billing and coding, patient records management, employee management, inventory management, and many

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## An analysis of how AI is affecting the labour market greater opportunities and greater threats

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### Abstract

The research paper "A Study of the Impact of Artificial Intelligence on the Job Market" aims to analyze the effects of artificial intelligence (AI) on the job market. The study examines the various ways in which AI is being used in different industries and the implications of this for the job market. The paper looks at the impact of AI on different types of jobs and the potential for job displacement due to automation. Additionally, the study investigates the potential for the creation of new job opportunities as a result of AI. Finally, the paper explores strategies for individuals and organizations to adapt to the changing job market and the role of education and training in preparing for the future of work in the age of AI.

**Keywords:** *Employment, Artificial intelligence, Productivity, AI adoption, Dependence on technology*

### 1. Introduction:

Artificial Intelligence (AI) is rapidly transforming industries and revolutionizing the way we live and work. From self-driving cars to intelligent chatbots, AI is changing the way businesses operate and creating new opportunities for innovation. However, the rise of AI has also raised concerns about its impact on the job market. As AI becomes more prevalent, there is a growing fear that it will lead to job displacement and unemployment.

This research paper aims to examine the impact of AI on the job market. The study analyzes the various ways in which AI is being used in different industries and the implications of this for the job market. The paper looks at the potential for job displacement due to automation and the impact on different types of jobs. Additionally, the study investigates the potential for the creation of new job opportunities as a result of AI.



## CFD analysis Compact Heat Exchanger

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**Abstract:** One of the essential components of machinery, gadgets, and industrial processes is heat transfer, which helps to maintain their functionality and produce goods of higher quality. Therefore, to drain excess heat from the process or device and to maintain the optimum operating temperatures, heat exchangers of various types and sizes are utilised in these applications. However, the size of a heat exchanger is crucial to take into account for any kind of process or equipment because it establishes how much room the machine, device, or treatment facility will require. The goal of this work is to theoretically investigate the design process of a heat exchanger before employing computer-aided fluid dynamics to analyse and optimise its performance. A counter-current heat exchanger was considered for design purposes and its length was theoretically calculated using the LMTD method, while the pressure drop and energy consumption were also calculated with the Kern method. In the CFD analysis, the three-case model was used in this study to analyse the behavior of heat transfer, mass flow rates, pressure drops, flow velocities and vortices of the bundle flows in the heat exchanger. Theoretical and CFD results showed only a 1.15% difference in the cooling performance of hot fluids. The axial pressure drops showed positive correlations with the total heat transfer coefficient and the required pumping power. Overall, the results of this study confirm that CFD modeling can be promising for the design and optimization of heat exchangers and that it can test many design options without producing physical prototypes.

**Keywords:** CFD, Heat Exchanger, LMTD, ANSYS.

### 1. INTRODUCTION

Heat exchangers are among the most commonly used devices in the process industry. Heat exchangers are used to transferring heat between two process flows. Their use shows that any process involving cooling, heating, condensation, boiling, or evaporation requires a heat exchanger for this purpose. Process liquids are generally heated or cooled before the processor is subject to a phase change. Different heat exchangers are named according to their application. For example, the heat exchangers used for condensation are called condensers, in the same way the heat exchangers for cooking are called boilers. The performance and efficiency of heat exchangers are measured using the amount of heat transfer using the smaller heat transfer area and the pressure drop [1]-[2]. Efficiency can best be represented by calculating the total heat transfer coefficient. The pressure drop and the area required for a particular heat transfer provide an overview of the investment costs and energy requirements (operating costs) of a heat exchanger.



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## Multiband and Wideband MIMO Antennas for Mobile Applications

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### Abstract:

This paper presents a multiband MIMO antenna based on meander lines with an L-shaped metallic strip. A monopole antenna with many short-circuited transmission line sections acts as an inductor, altering the impedance characteristics of the antenna; this arrangement is referred to as a meander line. 69% of the antenna size was reduced with the use of a line slot DGS (Defective Ground Structure) to reduce the mutual interaction between the antenna components and the insertion of two U slots on the ground plane. We obtain the values of the specific absorption rate (SAR) and envelope correlation coefficient (ECC) far below the given limit.

**Keywords:** MIMO; mobile antenna; multiband antenna; wireless communications; high isolation; miniaturization

### Introduction

Wireless service-based communication technologies are experiencing their pinnacle of expansion. Because of this meteoric rise, not only have the fundamental needs of the wireless sectors, but it also raised the bar for antenna makers. Currently, there is a need for a small antenna that can operate over a broad range of frequencies. When more than one electromagnetic band has to be covered in a single application, a wideband antenna is a great choice. An ultra-wideband (UWB) antenna may connect to any and all major communication applications, including WLAN, WiMAX, satellite, radar, and more [1]. The typical operating frequency range for a UWB antenna is between 3.1 and 10.6 GHz. Numerous publications from the past and present have proposed wideband monopole antennas. Researchers mostly use the introduction of slots or faults in the resonating surface or with the bottom plane as a means to enhance the antenna's effective or fractional-BW [2-3]. Antenna features such as a smaller operating frequency area, an expanded operating band, and a patch that is coupled to a finite impedance via slots cut into the ground plane are described in references [4-5]. Using asymmetric slots or several patches with varying forms is another way to increase the bandwidth.

Antennas with wide bandwidths have also been obtained by several researchers using CSRR or EBG structures.

One potential issue with these methods is that they might cause fading when dealing with multipath circumstances. Antenna arrays are used to address this issue. Another option is to use a multiple-input multiple-output (MIMO) antenna, which may significantly increase the antenna's bandwidth but isn't always a solution to the issue. In addition to being very efficient, these antennas are also superior in terms of directivity.

In order to demonstrate multi-band operability and enhance the antenna fractional bandwidth, this study proposes a MIMO antenna configuration. The antenna is capable of functioning across many bands of the electromagnetic spectrum. Antennas in the X, Ku, K, and Ka bands are covered by it. I have submitted the results of the simulation of the suggested design that was conducted using the hfss v15 software to this document.

### Proposed Geometry of MIMO Antenna

Based on its relative dielectric constant, the 2x2 compact multi-band MIMO resonator is built on an inexpensive and readily accessible FR-4 epoxy glass substrate has a loss-tangent of 0.02 and a thickness of 1.6 mm, with a period of 4.4.

Two patches with a hexagonal form and 50Ω impedance microstrip lines make up the structure. To minimize spurious emission as much as possible, the antenna patches are arranged to match the impedance with the microstrip lines. To achieve maximum efficiency and expanded bandwidth with lowest effective ground area, the antenna's ground plane is constructed in a certain way.

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## Virtual Online Educational Marketplace

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### Abstract:

Virtual Online Educational marketplaces are online platforms that provide a wealth of information and resources to assist learners in their studies. These websites offer a wide range of learning opportunities, including online courses, tutorials, videos, e-books, and interactive activities. They cover various subjects, from science, mathematics, and history to language learning, creative writing, and professional development.

#### →Understandable Benefits -

The benefit of these websites is that they allow learners to access high-quality educational resources from anywhere and at any time. They also offer personalized learning experiences and allow students to learn at their own pace. Moreover, educational websites can help bridge the gap between traditional classroom learning and modern-day digital learning, thus providing a more engaging and enriching educational experience.

In addition to creating a visually appealing and interactive design, the front-end of educational websites also needs to be optimized for performance and accessibility. This means ensuring that the website loads quickly, works seamlessly on different devices, and is accessible to users with disabilities.

### Introduction -

In addition to providing access to a wealth of information and resources, educational websites also foster collaboration and community building. This creates an opportunity for learners to interact with peers from different parts of the world, learn about different cultures, and exchange ideas.

Furthermore, educational websites are often free or low-cost, making them accessible to learners of all ages and backgrounds. They also provide a more sustainable alternative to traditional paper-based resources, reducing the impact on the environment.

As such, educational websites have become an indispensable tool for learners looking to enhance their knowledge and skills in the 21st century.

**Keywords:** Virtual Online Marketplace, Educational Documentation

  
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## Determine thermal efficiency of refrigerator using FEA

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### ABSTRACT

Refrigeration cycles are now a crucial part of daily life, especially when it comes to keeping food, staying active, and living a luxurious lifestyle. The goal of this study is to make some useful modifications to a conventional refrigerant system's design in order to improve the performance of the evaporator inside the compartment. In order to assess the effects of the traditional and perforated fin on the rate and temperature distribution at various levels and the comparison of temperature profiles for various configurations of the refrigerating compartment, the freezer and refrigerant compartments are studied for three configurations. As a result, the freezer and refrigerator are kept at an average temperature of 273 K and 286 K, respectively. Inside Compartment 1) the temperature in without finned system – 279.972K to 283.755K. 2) The temperature in with rectangular finned system – 277.563K to 283.1667K. 3) The temperature in with perforated finned system – 277.362K to 282.335K. The configuration studied for this type of refrigerator, the air temperature at the top of the refrigerator is about 5°C higher than the average air temperature, and therefore it is important to avoid placing sensitive products in this position. While perforated finned demonstrated maximum Temperature distributions and providing a higher cooling effect.

**KEYWORDS:** CFD, Refrigerator, Evaporator, Temperature

### 1. INTRODUCTION

In present time Refrigeration cycles are very essential in daily life, especially in use for storing food, fitness, and for luxury lifestyle. The basic feature of a domestic refrigerator is to maintain low temperature for perishable products, and this satisfactory relies upon on a very good refrigerator performance, [1][2] that is surprisingly linked to temperature distribution and the air flow within the compartments. For refrigerators supported vapor compression, many studies are conducted, significantly that specialize in the temperature and air flow distribution of the compartments. Within the literature we might realize works associated with the study of the air speed using the Particle Image Velocimeter (PIV) technique in combination with 3D numeric simulations by using CFD software system [3]. For example conducted a numeric study of air flow and heat transfer during a natural convection domestic refrigerator. The enhancement of refrigerator model a for a free- frost refrigerator in which they are expecting and by experimentation evaluate temperature profiles, getting an explicit discrepancy of their outcomes. In order to developed the temperature uniformity and consequently the air flow for all wall through a natural convection fridge. By experimental it is found that the temperature distribution dependent upon on the internal geometry of the refrigerator, especially within the areas between the refrigerator shelves and therefore the liner lower wall [5]. The existing a numerical simulation of a pressured convection refrigerator remaining that the freezer and therefore the fresh meals compartment are observed in section (synchronized) with every different. By CFD simulation the researchers projected a new internal design model [6].

Furthermore, some technologies have emerged in answer for the look for different refrigeration systems, among them those thermally activated (sun power, geothermal, residual heat, and so forth.) that emulate a decrease in greenhouse gases and zero contribution to global warming highly depend for the category of working fluids [7].

In this area, the diffusion-absorption refrigeration systems are huge applied in house equipment like hotel rooms as they're quiet and secure. Although these refrigerators will operate forever and ever for several hours, their utility is

## Power BI Dashboard for Data Analytics of Sales Data

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### ABSTRACT

All businesses want growth, and this can be achieved by identifying new opportunities and potential areas for growth in addition to the areas in which the business is lagging. Data analytics is the process by which the data is processed and various important insights are extracted from it that are crucial for the growth of an organization.

The process of understanding the value of a data set through a visual context is known as data visualization," and it is a component of data analytics that is carried out after data correction. These days, analytics and business intelligence are more dependent on visualisation.

Datasets can be visualised using a variety of methodologies and in a variety of interactive or dynamic ways, as well as through several sorts of visual insights.

This paper focuses on the process model, Microsoft Power BI operations, types of data sources available in Tool, and its various related types of visual insights or context. It deals with the interactive visualisation of educational institution databases using Microsoft Power BI Tool with different modules.

**KEYWORDS:** Data Analysis, Data Visualization, Power BI, Business Intelligence

### INTRODUCTION

Data visualization is the graphical representation of data and information in a visual format, such as charts, graphs, maps, and infographics. Data visualisation is to convey complicated data in a straightforward, understandable, and analytically sound manner. It is possible to spot patterns, correlations, and trends by transforming data into visual representations that can be challenging to spot in raw data. For data analytics, corporate intelligence, and decision-making processes, a data visualisation is a crucial tool that enables users to draw meaningful conclusions and takeable insights from the data. Numerous sectors, including banking, healthcare, marketing, and education, use it extensively.

Because it provides a range of visualisation options, including bar charts, pie charts, maps, tables, and more, Power BI is a strong tool for data visualisation. Users of the tool can produce interactive reports and dashboards that can be distributed throughout an organisation. The visuals can be altered to meet the user's demands and the requirements of the data being examined. Users of Power BI can also delve deeper into the data to acquire more information and spot patterns or trends. Overall, Power BI data visualisation aids users in making better decisions by presenting information in a clear and understandable manner.

The Process Model of Power BI refers to the steps involved in creating a data model within Power BI. The data model is the foundation of any Power BI report or dashboard, and it is created using the Power Query Editor and the Power Pivot Editor.

The process model involves four main steps:

1. **Data Acquisition:** This involves connecting to the data sources, selecting the tables or files to use, and applying any necessary transformations to the data using the Power Query Editor.
2. **Data Transformation:** In this step, the data is cleaned, filtered, sorted, and otherwise transformed to make it ready for analysis using the Power Query Editor.
3. **Data Modeling:** Once the data is transformed, it is loaded into the Power Pivot Editor, where relationships between tables are established, and calculated columns and measures are created to support the analysis.
4. **Report Creation:** Finally, the data model is used to create reports and visualizations using the Power BI Report Builder, where users can create interactive dashboards and reports.

Overall, the process model of Power BI helps users to create a robust data model that supports effective analysis and visualization of data.