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WCASET-2021

18th & 19th August, 2021

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Virtual Conference

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Jakarta, Indonesia

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IFERP-Explore

Editorial

We cordially invite you to attend the **37th World Conference on Applied Science, Engineering and Technology (37th WCASET-2021)** which will be held on **18th & 19th August, 2021** - Virtual conference. The main objective of **37th WCASET-2021** is to provide a platform for Researchers, Students, Academicians as well as Industrial Professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in their view process, and to the authors for contributing their research result to the conference.

Since June 2021, the Organizing Committees have received more than 110 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology. Finally, after review, about 51 papers were included to the proceedings of **37th WCASET-2021**.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of **37th WCASET-2021**. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Acknowledgement

IFERP is hosting the **37th World Conference on Applied Science, Engineering and Technology** this year in month of **August**. The main objective of 37th WCASET-2021 is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to make this conference successful.



Er. R. B. Satpathy
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37th WORLD CONFERENCE ON APPLIED SCIENCE, ENGINEERING AND TECHNOLOGY

18th & 19th August, 2021 - Jakarta, Indonesia
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ABSTRACTS

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37th World Conference on Applied Science, Engineering and Technology

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Trace Element Geochemical Analysis and Depositional Environment of Lokoja-Basange Sandstone at Imiegba Area, Southwestern Nigeria

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Abstract

Eight sandstone samples from Campanian Lokoja-Basange Formation in Western part (Benin Flanks) of the Anambra Basin situated at Imiegba were investigated using standard procedures of trace element geochemical analysis to infer their depositional environment. Detailed trace element geochemistry was examined using X-ray fluorescence technique. The Lokoja-Basange Formation is conformably overlain by the Mamu Formation and underlain by the Igarra Schist Belt Basement Complex. Based on the geochemical parameters like V/Cr, Ni/Co, V/(V + Cr) and the low Cu/Zn ratios in the studied sandstone samples suggest that the sandstones were formed in a well-oxygenated bottom water condition. The medium- to coarse-grained sandstone bodies are poorly sorted suggestive of deposition in a low energy setting, probably in a shelf or floodplain. The marine paleoenvironments is supported by the concentration and association of redox-sensitive trace elements such as vanadium and nickel. The redox-sensitive trace metals suggest oxic conditions that favoured the accumulation of these sandstones in the Benin flank area of the Anambra Basin, Nigeria.

Keywords

Sandstone, geochemistry, depositional environment, Anambra Basin, Lokoja-Basange Formation



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Design of an Automated Assembly Line for Door Frame Assembly

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Abstract

This paper delved into a design of an automated door frame assembly line. Over years of production, the company has been outsourcing the services of door frame assembly to a subcontractor at which all processes are done manually. In view of the increasing volume of production in recent years, the company is planning to assemble the products in-house and has intention to convert the manual to fully automated operation when in-house facility is set up for the door frame assembly. This decision is in tandem with the company program in driving the Digital Transformation of their manufacturing. The methodologies started with determining the process requirements to establish the design inputs for the automated system and the engineering drawings of the system were generated. Subsequently, the process flow and layout planning were established and simulation was conducted that enabled the optimal planning of a more efficient and utilization of production space and labor. In the final result, three automated machine stations were designed and integrated. Upon loading of the door frame components, the assembly sequence of merging, pressing, welding with flipping mechanism that allow the welding on two faces of the door frame and grinding process until finishing of unloading the door frame assembly are performed in the fully automated line. The system has achieved 56% reduction in process cycle time and 25% saving of labour. To build the IT Infrastructure for I4.0 transition, types of sensors are placed on each machine, this allow data to be collected, connected and analytics for optimal inventory control, predictive maintenance, real time visibility to be deployed to the line to deliver real-time decision making, enhanced productivity, flexibility and agility.

Keywords

Door frame, automation, flow simulation, digital transformation, Industry 4.0.



37th World Conference on Applied Science, Engineering and Technology

18th & 19th August, 2021 – Jakarta, Indonesia

Revegetation of Local Superior Species of Pelawan in Rehabilitation of Desert Sand and Kaolin Clay Sites Due to Open Tin Mining in Tropical Ecosystems

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Abstract

Indonesia is one of the largest tin exporting countries globally, with its center in Bangka Belitung, which is part of the line group of The South East Asia Tin Belt. Tin mining in wet tropical forestlands in the Bangka Belitung Islands, which is part of the world's lungs, has resulted in very severe land damage. Open tin mining in tropical ecosystems through spraying and suctioning and sorting through gravity has led to anthropogenic desertification and loosening of kaolin clays. The research objective was to evaluate the revegetation of select local types in the reclamation of degraded land due to open tin mining on various main sites (i) kaolin clay site and (ii) quartz sand site, with and without fertilizers. Ex-tin mining land becomes desert sand that is dry, hot and contains toxic to plants. It has a worse impact on environmental quality, soil physical, -chemical & -biological fertility, loss of organic cycles, increased erosion, micro & macroclimate warming, and heavy metal pollution. Every potential crop-planting attempt failed due to heat, drought, and poisoning. The engineering efforts of plant growing site media with soil amendment materials that improve humidity, temperature, and nutrient regimes can increase rehabilitating former tin mining areas. The soil characteristics of the ex-tin mining land on the quartz sand site are dominated by sand texture with a volume weight of 1.2 g/cm³, low specific gravity (<2.87), good porosity (53.32%), acidic pH (5.1) to slightly acidic (5,9), low reduction potential, high CEC, very high content of N (NH₄⁺ and NO₃⁻), P and K. The soil characteristics of the ex-tin mining land on the kaolin clay footprint are dominated by clay texture, volume weight 1.6 g/cm³, low specific gravity (<2.87), and poor porosity (35.51%), with poor soil chemical characteristics nearly the same as a quartz sand tread. Post-tin mining degraded land reclamation, which is still in the form of tailings, under, swamps, and land topography, has been quite successful with revegetation of superior local species. Revegetation with Pelawan (*T merguensis* Griff.), a superior local species, is relatively suitable and good for revegetation of degraded land due to open mining because it tends to be adaptive to restore the environment of tropical ecosystems. Pelawan can be used as a source of energy, with a specific gravity of 4.296 Kcal/kg, used as construction wood, boat frames, and pepper plantations. Pelawan also produces flower nectar that produces bitter honey and is the host of rare and expensive edible mushrooms so that it has much higher added economic, environmental, and socio-cultural value. Aboveground of Pelawan plant biomass and chlorophyll content were significantly different in kaolin and quartz; however, growth (plant height and diameter) and growth resistance were not significantly different.

Keywords

Anthropogenic desertification, open mining, tropical ecosystem, tin, toxicity



37th World Conference on Applied Science, Engineering and Technology

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Plant Diversities and Carbon Stocks in Rehabilitation and Post-Fire Sites of Tropical Peatland Ecosystem

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Abstract

Forest and peatland fires have become a national disaster and result in large-scale degradation of peatlands. Fires threaten the function of peat forests as carbon stores and release carbon back into the air. Differences and biophysical changes of degraded peat significantly affect the role and function of peat forests when compared to the succession, rehabilitation, and natural conditions of peat forests. The purpose of this study was to compare the biophysical conditions of the peatland ecosystem after the fires in 2019 (5 months after the fire) with the biophysical conditions of rehabilitated peatlands in 2011 (9 years old plants) and 2017 (3 years old plants). The composition of the types of vegetation found at the study site consisted of 17 species belonging to 13 families. The natural regeneration stage of seedlings in burn plots was dominated by *Ficus sp.*, *Melicope lunu*, *Nephrolepis bisserata*, *Gleichenia linearis*, *Stenoclaena palustris*. Poles and trees were not found in the burnt and 3-year-old rehabilitation plots, while the 9-year-old rehabilitation plots were found in the poles and trees of the *Dyra lowii* species, although only a little. Ecological diversity indicators at the seedling and sapling levels according to the Shannon-Wiener diversity index (H'), Simpson dominance index (C), and Evenness index (E) are moderate to high in all rehabilitation and burn plots. Meanwhile, according to the category, Margalef Species Richness (R) is all classified as low. The estimated carbon storage in the 9-year-old rehabilitation plot was 19.68 tonnes/ha, followed by the 3-year-old rehabilitation plot of 6.77 tonnes/ha, and the lowest was the burnt plot which was only 5.92 tonnes/ha.

Keywords

Biodiversity, carbon stock, forest fire, tropical peat, rehabilitation



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Effectiveness of Canal Blocking and Revegetation for Restoration of Peatland Due to Forest Fires in Tropical Ecosystems

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Abstract

Repeated forest and peatland fires have resulted in land degradation, dominated by weeds and shrubs, so it needs rehabilitation. Rehabilitation through revegetation of peat is crucial to restoring its function as carbon sequestration and water storage. Forest and peatland fires in 2019 in the Orang Kayo Hitam Jambi Forest Park (Tahura) scorched almost the entire area, including the 3-year-old rehabilitation plant plot. Several types and distributions of rehabilitation plants survive after a severe fire and start resprouting, namely those in areas near canals. The construction of canal blocks has played an essential role in increasing soil moisture to affect the survival capacity of plants. Measuring plots will be made systematically in the area along the canal for field data collection, knowing the types and numbers of plants that survive and their resprouting power. Data on the effectiveness of canal blocking was carried out by observing the water level of the ground by drilling peat at points near or far from the canal. Plants with the highest survival rate were *Alstonia pneumatophora* (72.22%), followed by *Melaleuca cajuputi* (71.11%), and the lowest was *Dyera lowii* (48.65%). Furthermore, the resprouting power of plants in order was *Alstonia pneumatophora* (71.11%), *Melaleuca cajuputi* (35.56%), and *Dyera lowii* (26.67%). The effect of canal blocking has increased water level and peat moisture. During the research, the rainfall was still high enough so that the water level as far as 30 meters from the edge of the canal was still the same. Research continues until the dry season to examine more deeply the effectiveness of canal blocking on water availability in peat.

Keywords

Canal blocking, Peatland, rehabilitation, survival rate, sprouting, tropical ecosystem, water storage



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Edutainment Sariswara and Tutorial among Systems for Superior Character Building and Education System

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Abstract

Education is a cultural and civilization effort to advance human life and increase human dignity. Ki Hadjar Dewantara (KHD) developed an education system based on culture and human values in educating the head, softening the heart, and displaying hands when establishing Tamansiswa in 1922. The tutorial *Among* system development was carried out with a system based on the spirit of love, compassion, caring, devotion, kinship, and togetherness based on nature and independence. Every child has his specific talents, strengths, and advantages, which are different from the others. Cultural arts are the products of education, so they are the spearhead of character building for children. It is necessary to harmonize creativity, taste, and intention, namely a synergistic combination of the results of thinking, feeling, and strong motivation following the mental development of students. The *momong*, *among* and *ngemong* systems need to be applied in an educational method based on the patterns of love, asah and upbringing. The SariSwara learning method based on art and culture teaches through *wiraga* (sport), *wirama* (rhythm exercise), *wirasa* (soul exercise), to instill and preserve moral stories, leadership, local wisdom, culture, and national traditions. The development of ARTDA 2.0 (Augmented Reality *Tembang Dolanan Anak*) and edutainment (education with entertainment) is needed to improve education during the Covid-19 pandemic and welcome education 4.0. The revitalization of the *Among* and SariSwara system is imperative to form the main human being for Indonesia's golden generation, that must have superior competence, character, lifestyle, religious values and fighting spirit. Also have attitudes, mindsets, concepts, and superior civilization with intelligent, broad, deep, productive, creative, innovative, and futuristic insights. Character, ethics, unique noble character and individual responsibility must contribute significantly to the welfare of all human beings in the universe.

Keywords

character building, digital learning, edutainment, golden generation, Tamansiswa, tutorial.



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Development of Happy City in the Reforming Program for Dense Residential Areas in the Special Capital Region of Jakarta

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Abstract

Critical issues in dense residential areas in the capital are residential domination areas, no outdoor facilities, the threat of flooding, air pollution, lack of green space, and lack of access to transit points. The development of a happy city is safe, resilient, inclusive, and sustainable with some tools of safe & healthy, culture & civic pride, socially connected, walkable & accessible, shared prosperity, and clean & green. The vision and mission of a happy city are transforming lives through urban design by improving the environmental quality through integrated green infrastructure development that propels happiness to its inhabitants. Happy city development is carried out by facilitating shopping, eating, healthy, gathering, socializing, learning, a short distance of walking & cycling, gardening, leisure, and communicating with nature. The macro strategy is with integrated nodes, public space, and build nature. Micro strategy for sustainable aspects are green building, green lane, street market, a short distance; for resilience aspect are riverside park, urban farming, vertical garden, rain garden; for safety aspect are active frontage, the driveway at a lower level, separated transportation lane, eyes on the street; and for inclusive aspect are communal space, picnic space, waterfront area, infrastructure and event spa. The happy city has great potential to improve the quality of dense and slum areas in urban areas.

Keywords

happy city, metropolitan city, safe, resilient, sustainable, well-being



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Developing ‘Tamansiswa’ Character Scale: Achieving Agile Graduates

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Abstract

In this era with the massive change of technology, education plays an important role to achieve graduates with their virtuous character. Universitas Sarjanawiyata Tamansiswa (UST) is one of private institutions in Yogyakarta founded by an Indonesian education pioneer, Ki Hadjar Dewantara. UST develops its vision as becoming the centre of excellence in glorifying and educating the nation's life based on *Tamansiswa* teachings. To achieve the vision, reliable indicators are urgently needed. The already existing indicator has merely been in the form of grades of *Ketamansiswaan* subjects that seem to be insufficient to measure its objectivity. Therefore, a reliable instrument of Tamansiswa character for graduates needs to be developed. The measured attribute reveals the extent to which graduates understand, appreciate and apply the Tamansiswa character. The measuring tool is based on stakeholder assessment on the graduates' behaviour listed on the scale. High levels of reliability and internal consistency were established as well.

Keywords

character building, society-based era, character scale, agile graduate



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Green Synthesis of Silver Nanoparticles Using Almond Leaves (*Terminalia Catappa*) From Silver Nitrate (AgNO_3) And Silver Sulphate (Ag_2SO_4) And Study Its Optical Properties Using UV-visible Spectrometer

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Abstract

Green synthesis of silver nanoparticles are arrived using silver nitrate and silver sulphate solution using Almond leaf extract. The extract is doped with silver nano-particles which is at concentration 1mM. Their Absorbance was recorded in the wavelength range 200–800 using UV-Vis double – beam spectrophotometer. Using these measurements, other optical parameters were calculated. The effect of both silver nanoparticles was investigated. The results proved the silver sulphate has more efficiency compared to traditional silver nitrate solution, the transmittance of about 100 % as their band gap varied from 1.921–1.832 eV. while optical conductivity varied in the range of 4.2 eV. They had a significantly low refractive index, suitable for optical applications within the range of 0.5–0.75. The extinction coefficient varied in the range as $1.0\text{--}1.7 \times 10^{-5}$ while the absorption coefficient varied in the range of $2.1\text{--}4.2 \text{ cm}^{-1}$. It can be concluded that the particles synthesized from silver sulfate show significantly more efficient values than the silver nitrate.

Keywords

optical parameters; silver nanoparticles, Green synthesis, Silver sulphate



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Design of an Automated Assembly Line for Door Frame Assembly

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Abstract

This paper delved into a design of an automated door frame assembly line. Over years of production, the company has been outsourcing the services of door frame assembly to a subcontractor at which all processes are done manually. In view of the increasing volume of production in recent years, the company is planning to assemble the products in-house and has the intention to convert the manual to fully automated operation when the in-house facility is set up for the door frame assembly. This decision is in tandem with the company program in driving the Digital Transformation of their manufacturing. The methodologies started with determining the process requirements to establish the design inputs for the automated system and the engineering drawings of the system were generated. Subsequently, the process flow and layout planning were established and simulation was conducted that enabled the optimal planning of a more efficient and utilization of production space and labour. In the final result, three automated machine stations were designed and integrated. Upon loading of the door frame components, the assembly sequence of merging, pressing, welding with a flipping mechanism that allows the welding on two faces of the door frame and grinding process until finishing of unloading the door frame assembly are performed in the fully automated line. The system has achieved a 56% reduction in process cycle time and 25% saving of labour. To build the IT Infrastructure for I4.0 transition, types of sensors are placed on each machine, this allows data to be collected, connected and analytics for optimal inventory control, predictive maintenance, real-time visibility to be deployed to the line to deliver real-time decision making, enhanced productivity, flexibility and agility.

Keywords

Door frame, automation, flow simulation, digital transformation, Industry 4.0



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Selective Methylation and Formylation of Amines using Carbon Dioxide as Carbon Source with Metal Free Catalyst

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Abstract

The role of CO₂ in the form of sustainable basic material can be crucial because of chemical combination. The CO₂ metamorphosis and applications is a good substitute to carbon dioxide storage to reduce these greenhouse emissions. Carbon dioxide is an ample, nontoxic as well as sustainable source of carbon, and accordingly a pleasant basic element for organic molecular creation. N-formylation and N-methylation of amines was conducted by means of a CO₂ ball and phenyl silanes referred to as reductant. N-methylation of amines is a significant level in the formation of various pharmaceuticals and being broadly utilized in the production of various primary intermediary and chemical substances. The product selectivity between methylation and formylation product was changed by adjusting the solvent, temperature of the reaction and the amount of phenylsilane used. Reduction of amine is done by using CO₂ as carbon source, phenylsilane by means of reductant and N-heterocyclic carbene (NHCs) as metal free catalyst. The product is formamides and methylamines formed by the reaction of 2- and 6-electron lowering of CO₂, respectively in the existence of metal free catalysts.

In this review, we summarized the role of metal free catalysts (NHCs) that behave as nucleophiles to help reduce amine in the existence of carbon dioxide which acts as a carbon source. N-formylation and N-methylation are sustainable reactions that serve to generate a large variety of many intermediaries and components.

Keywords

N-Formylation, Metal free catalysts, N-Methylation



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Crowd Exemption Notifier

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Abstract

Crowd management is a challenging problem in the pandemic situation to ensure public safety. To overcome the difficulties, many technologies have been incorporated to cope up with the problems. However, the effectiveness of these techniques is limited due to the density of the crowd changing from low to extremely high depending on the time. We propose a robust feature-based approach to deal with the problem of crowd management for people's security. We have evaluated our method using a dataset and have performed a detailed analysis. The crowd is monitored through a surveillance camera and the image is recognized frame by frame using OpenCV and the recognized frame is processed through the YoloV4 and COCO dataset to get the human identification count. When the crowd exceeds the allocated limit 'Crowd exemption notifier' intimate the organizer. This mechanism could help common people and the government to withstand the widespread viral disease.

Keywords

OpenCV - COCOdataset - YoloV4 - Darknet 53 - DarknetCNN – pycharm - image-processing



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Flood Disaster Management System using Machine Learning

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Abstract

In this paper, we present a modern approach for surveillance at flood events, remote and dangerous areas using multifunctional robot which can be used in flood disaster management operation. Here we are creating a circumstance in which we can substitute the rescuers with robots in any dangerous situation. The robot will inform us if there is any kind of unpleasant situation occurred. It has an additional feature in which it provides medical aids and food supplies to the suffered persons using attachments and sensors. This robot will make us aware of the situation and the life of the peoples can be saved.

Keywords

Internet of Things [IoT], Support Vector Machine, K-Nearest Neighbors, Association for India's Development



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Development of Water Quality Monitoring System Using Solar Powered Micro Controlled Wireless Sensor Technology with Automated Alert and Aeration System in Taal Lake

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Abstract

Lakes are essential aquatic resources in the Philippines because they provide a livelihood to the surrounding communities. The increase in human activity resulted in devastating impacts on our environment, one of which is aquaculture. Rigorous aquaculture and recreational activities resulted to worsening of the quality of lake water and sometimes lead to fish kill. Adequate Water Quality Monitoring (WQM) is a must to ensure environmental sustainability in the lake. This study attempts to develop a solar-powered arduino-based wireless sensor network technology buoy for a real-time data acquisition at a pre-programmed time interval that can be used for water monitoring, particularly the temperature, pH level, ammonia, and dissolved oxygen of the lake. All collected data from the device will be transmitted to different stakeholders via short message service (SMS). A GSM module is used to transmit data between the computing machine and a GSM system. The device is also equipped with an automated alert system that will emit a warning sound and signal during critical dissolved oxygen level band an aeration system will automatically work, providing oxygen for the fish. The experimental results prove that the device could transmit sensed data at a pre-programmed time, and obtained values showed no significant difference between the data acquired through manual and laboratory tests, thus making it a practical method for water quality monitoring systems at the lake.

Keywords

Wireless Sensor Network (WSN), Solar Powered Buoy, Water Quality Monitoring (WQM), Arduino-Based, Global System for Mobile Communication (GSM)



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Encryption – JPEG - LS for Medical Image Reliability Control in Encrypted and Compressed Domains

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Abstract

Image data security is the essential portion in communication and multimedia world as part of sharing and storing information to avoid third party access. In this paper, the first joint encryption-compression scheme for the purpose of protecting the medical images has been proposed. The main originality of this scheme stands on its ability to give access to security services from both encrypted and compressed image bit streams without having to decrypt or to decompress them, even partially. A second contribution is that it combines in a single algorithm the bit substitution modulation with JPEG-LS and the AES block cipher algorithm in its CBC mode. On the other side, decompression, decryption and message extraction are conducted separately. Doing so makes the proposed scheme compliant to the medical image standard DICOM. This scheme allows tracing images and controlling their reliability (i.e. based on proofs of image integrity and authenticity) either from the encrypted domain or from the compressed domain. The experiments conducted on broad set of medical images like Retina and ultrasound images demonstrate the capability of our system to securely make available a message in both encrypted and compressed domains while minimizing image distortion.

Keywords

Image Encryption & Decryption, Advanced Encryption Standard, Cipher, Medical Image



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Lithium Based Batteries Charged by Regenerative Braking Using Second Quadrant Chopper

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Abstract

In this modernized world, nowadays, the Electric Vehicles (EVs) scope is continuously increasing. The main problem which is in the path of the good implementation of the EVs is batteries as they incur much of the cost in them due to its their problem of efficiency, short life time, ageing effect, charge-discharging process etc.. In this paper, the regenerative braking technique for lithium-based batteries using second quadrant chopper is presented. The regenerative braking technique recovers the energy which gets lost in the form of heat due to the friction between land and wheels while braking. The simulation is performed in MATLAB. The DC motor is used in this paper which is given negative torque using step function to indicate the braking mode. The lithium-ion battery with 50% SoC is taken so that the energy recovered can be feed in the remaining capacity of the battery. The MOSFET switch operates with the feedback mechanism provided using a system. As it uses only one switch, so, the losses are reduced and results in efficiency improvement. The energy gets recovered and results in increase in state of charge (SoC) of the battery. The analysis shows that the rate of change in SoC increases with the change in speed which shows the regenerative maximum effect while on slopy areas.

Keywords

Electric Vehicles (EVs), Regenerative Braking, Lithium Battery, Second Quadrant Chopper



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Investigating The Effectiveness of Virtual learning In the First-Year Architecture Design Studio

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Abstract

A design studio is much more than the physical thing itself, and the curriculum and support that surrounds it are crucial. This is especially true with virtual design studios, which operate online and at a distance (VDS). This is the era of virtual learning and it involves different teaching methodologies for the same objectives to be achieved for any studio as in conventional. The paper aims to investigate the virtual architecture design studio-I and the degree to which teachers can achieve the objectives of the studio comparing the conventional architecture studio. To conduct the study the mixed method approach was followed where quantitative and qualitative data were collected by students and teachers of Conventional and Virtual studio students on kitchen measured drawing and personal space design exercise limiting it to first-year day batch studio of the Faculty of Architecture & Ekistics, Jamia Millia Islamia. 38 Students' responses would be surveyed under the objectives of the studio. In further research, Quantitative data by teachers and students on assessment of personal space design sheets provides the analytical framework that can be adopted as an innovative pedagogical strategy to engage students that can be used in virtual studios.

Keywords

Virtual Studio, Conventional Studio, Design exercise, Measured drawing, Personal space design



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Immunomodulatory Antibody holds Promise for New Age Combinatorial Cancer Therapeutic

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Abstract

Immune checkpoint blockade and Immunomodulation became an active research topic in cancer immunotherapy. The modification in signaling pathways of immune cells creates an efficacious strategy for the treatment of cancer. The heterogeneity of tumor suppressed the antitumor immunity by manipulating the tumor microenvironment by mediating crosstalk between several immune cells through secretion of cytokines, chemokines, and various factors. The significant role of crosstalk between tumor cells and multitude of immune mediators present in the tumor microenvironment, necessitates the identification of multiple targets for successful immunotherapy as a more efficient combinatorial therapy for cancer therapy. Immunotherapy induces a durable response in cancer treatment and a lot of factors that involve resistance mediates. The Food and Drug Administration (FDA) approved several immunomodulatory antibodies for targeted therapies to block immune checkpoints in various cancer therapies. In the present study we'll discuss the contemporary clinical policies with the future potential of immunomodulatory antibodies in cancer treatment.

Keywords

Immunomodulatory antibody; programmed cell death receptor; cancer; Immunomodulation; combinatorial therapy; immunotherapy



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Secured Communication Strategies for Internet of Things Sensors

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Abstract

Internet of things is acknowledged by free progression of data among different low-power inserted gadgets which utilize the internet to communicate with each other. It is anticipated that the IoT will be generally conveyed and will discover pertinence in different areas of life. Requests of IoT have recently pulled in tremendous consideration, and associations are amped up for the business estimation of the information that will be generated by deployment of such networks. Unexpectedly, IoT has different privacy and security worries for the end users which limit its multiplication. This paper manages the different proposed IoT security requirements that are capable for verification, accessibility, encryption and trustworthiness for secure communication. The paper has been centered around security necessities for Internet of Things sensors, difficulties and open issues for various security prerequisites in IoT network communication, technologies for IoT communication, and their applications and open research issues. Each model has been compared and all the critical features have been presented.

Keywords

Sensors, Internet of Things, Security



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Improving Security in IoT and M2M using Cloud based Design Approaches

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Abstract

Predominance of IOT is improving quickly with expanding impact on our everyday life. IoT has gotten impressive consideration in both scholarly world and industry as of late and there have been critical examinations on security and protection parts of cyber- physical systems and IoT. The protection and access control to assets assumes a basic function in distributed computing framework such as cloud platform and Machine-to-Machine (M2M). Experts in scholarly world have created novel access control models and techniques for IoT. On the side of Industries, organizations including service providers of cloud such as Google, Amazon and Microsoft have conveyed IoT Platforms which are Cloud-Enabled to guarantee wide scale appropriation. This paper explores the threats to safety as well as vulnerabilities in the Internet of Things also suggests the strategies for safety based on Security by Design and Cloud computing. The IoT Security hazard counteraction Approaches are discussed. In the methodology for neighbourhood cloud infrastructure distinctive access strategies are investigated to decide their security perspectives. It is critical to see new message conventions that are utilized for M2M communications. The procedures used to make sure about local cloud model might be actualized by methods for policies, network access, strategies, authentication and authorization technologies or a mixture from these.

Keywords

IoT, M2M, Security risk, Prevention Methods, Cloud



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Real Time Face Recognition System Using Artificial Intelligence

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Abstract

Face recognition is rapidly evolving, constantly developing, difficult and energizing spot applications. Over the last few years, an enormous measure of facial recognition calculations has been developed. For this case. The paper made an attempt to survey a variety of methods used to understand facial recognition. These include PCA, LDA, ICA, SVM, Gabor delicate wavelet, a PC device such as ANN for visibility and diversity. A cross-breed combination of these techniques. This update examines each of these approaches through boundaries facing recognition difficulties, such as lighting, standing distinction, outward appearances Keywords, part, formatting, style, styling, insert (key words)

Keywords

Principal Component Analysis (PCA), Linear Discriminant Analysis (LDA), Independent Component Analysis (ICA), Face Recognition, Artificial Neural Networks (ANN)



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College Enquiry Chatbot

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Abstract

These days, numerous individuals are utilizing cell phone with numerous new applications for example innovation is developing step by step. Today Artificial Intelligence is assuming a significant function in an assortment of fields going from ventures in item producing, to client care in advertising. As there are numerous online Artificial Intelligence (AI) frameworks or visit bots which are in presence that assist individuals with tackling their issues. Along these lines, we will execute a remote helper dependent on AI that can explain any school related inquiry. This will fill in as a College Oriented Intelligence machine. This virtual machine will react the inquiries of understudies on school related issues. A talk bot has data put away in its information base to distinguish the sentences and settling on a choice itself as reaction to address a given inquiry. The school enquiry talk bot will be assembled utilizing calculation that examinations inquiries and comprehend clients message.

Keywords

Artificial Intelligence, Database, Intelligence Machine



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Solar PV Interfaced with VSC and Single-Phase Grid with Battery Support

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Abstract

This paper presents an integration of solar photovoltaic system with battery support to single-phase grid. The proposed work maintains a constant load current irrespective of worst environmental conditions such as change in irradiation level and sudden disconnection of solar photovoltaic system. The maximum power extracted from the solar PV array through perturb and observe method is fed to the grid and the load. Boost converter with closed loop operation is used to boost the PV voltage. The system also demonstrates the battery dynamics during solar insolation, thus leveling the PV power fluctuations. Adaptive filtering method with LMS approach extract fundamental value of load current for non-linear loads. The control designed for each converter is simple and easy to implement. The proposed system is designed for the power of 4.5 kW and is connected to a nonlinear diode bridge rectifier load of 350W. The experimental results of the proposed system and control are presented in MATLAB/Simulink



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Development of Curriculum Based on Local Cultural Arts in Higher Education to Prepare The Life Skills of Prospective Elementary School Teacher

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Abstract

This research develops a curriculum design with orientation on preparing graduates who have superior culture and values in artistic skills obtained through the curriculum that the researchers design. This research is a development research using the ADDIE model (Molenda, 2003) which consists of several stages, starting with the Preliminary Study, researchers conducting literature studies related to curriculum design based on local cultural arts; second, the design of cultural arts-based curriculum development for students, then the formulation of competencies; Third, the development of a holistic curriculum by compiling learning and assessment tools. The focus of this research is on the design of curriculum development in higher education based on local arts and culture, with the research respondents being 100 students of the Madrasah Ibtidaiyah (elementary school level) Teacher Study Program and also several relevant policymakers. The purpose of this research is to complement the existing curriculum and to prepare life skills of cultural arts to suit the needs of stakeholders as potential users of graduates from this study program. The result is a syntax of a curriculum development model based on local arts and culture, in the form of model stages, learning tools, and also an assessment system.

Keywords

Curriculum, Local cultural arts, Life skills



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Land Use/Land Cover Classification in Mekong River Basin, Thailand Using Google Earth Engine

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Abstract

Land use/ land cover (LULC) analysis has been greatly encouraged effective management of water resources, especially water-related disaster monitoring and water budget planning. The exploitation of Earth observation satellite images has been applied in order to support LULC classification in large areas or multi temporal assessment. Several techniques and tools have been developed to produce satellite-based LULC mapping, However high performance computing and specific software are the basic requirements for these processing. The Google Earth Engine (GEE) cloud computing platform provides enhanced opportunities for undertaking satellite images processing which the system provides large satellite image archives and libraries for multi-propose processing. This work presents land use analysis of Mekong river basin, Thailand in 2019 applying Earth observation satellite images acquired by optical and Synthetic Aperture Radar (SAR) instruments. Advanced machine learning LULC classification include support vector machine (SVM), random forest (RF) and Classification And Regression Trees (CART) are compared their results. The study has been carried out to identify the best and accurate algorithm for LULC mapping using GEE.

Keywords

land use/land cover (LULC), Google Earth Engine (GEE), machine learning algorithm, water resources management



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Role, Elements and Propensity of Corporate Social Responsibility as Collaborator of Public in Contemporary Pandemic

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Abstract

Recent spreading of Corona disease has deep long term adverse effects in our culture, society, and economy also apart from disease itself. The situation caused huge social crisis, reducing well being and hampered overall sustainable development. Agriculture, industry and service (transport, tourism, entertainment, health etc) and almost all sectors of our society have been severely damaged and in this unfortunate poor condition, any Government alone can not revive society until It could be parallel way addressed by the country's business houses or industries. Covid outcome includes inequality of the safety issues and different facility(s) based on the income/ power etc, rising mental stress level and anxiety among many people, closure of all education institutes, drop in those family income of country, massive unemployment of community due to closing of business activities and organizations, rising unsocial attitude of people etc. Also there are practically growing discrimination and social exclusion of infected people, reduction in all transactions as well as money flow in market, mere helplessness and insecurity oriented feeling of elder people and children especially, increasing domestic violence and suicide of common men, break of supply of necessary commodities etc. This paper argues that in this contemporary pandemic period, corporate sectors should play a major notable role for confronting and attending this crisis as well facilitating and reshaping injured society. Popularly known as corporate social responsibility, business can attend this issue well due to having enough power and capital. A big deal of CSR is making awareness of medical guidelines like mask use while outside etc and broadcasting appealing preventive slogans for awareness by media as keeping social distance, washing hands regularly ETC. Companies can also produce by them more products that provide safety from COVID issues like Corona test kit, proper medicine, medical ventilator, hand sanitizers, face mask, bathing soap, face shield etc and either donate or sell these items at less price. They can spend some money for solving issues like healthcare prevention, rehabilitation issues, penury of people, starvation situation, availability of consumable water, sanitation provision, rescue work for helpless people, building safe home and quarantine centre for infected people etc by their own involvement or by contributing in Prime Minister care fund. The corporations may permit their staffs work from home, arrange counseling for staffs and stay away from retrenchment or salary cut of staffs as playing proper parental role for their employees. They (companies) could recruit some volunteers to assist helpless people in different places, ensure more online services for community for necessary tasks including facilitating online education etc. Thus the authority of corporations will act morally for empowerment and betterment of their vital stakeholder namely society or community in Corona crisis period and can stay permanently in good book of customer, print and electronic media, community and government. Different companies have great contribution in this regards. As we know Company act 2013 also mandates all companies having certain level of worth/turnover/net profit to spend minimum 2% of net profit for purpose of social responsibility. This paper appeals industries to have a deep thought to address the needful in this situation and sustain as a responsible corporate citizen.

Keywords

Corporate Social Responsibility, Collaborate, Corona, Pandemic, Public



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First-Principle study on the influence of Molybdenum on Elastic & Electronic Properties of Single phase BCC TiVZrNbMo_x

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Dr. S. Kumaran, Professor, National Institute of Technology, Trichy

Abstract

By using the First principle study the effect of Mo content on the phase structure, elastic properties, elastic constants of the TiVZrNbMo_x (X= 0,0.25,0.5,1) refractory high entropy alloy. Based on the density functional theory and plane-wave pseudo-potential, the supercell model of the optimized crystal is built by Special quasi-random structures (SQS). The valence electron concentration (VEC), and atomic size difference (δ) shows that the TiVZrNbMo_x is the stable BCC crystal structure. The lattice parameters, densities, elastic properties and density of the states were calculated. Mo alloying increased the atomic interactions. The Mo alloying increased the strength and ductility of the High entropy alloy. The calculated data were well agreed with the experimental results, it shows that first principle calculation was an effective method to predict the alloying performance.

Keywords

First-principle study; High Entropy Alloy; elastic property; SQS



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The Potential Use of Flipped Classroom in Teaching Calculus in 1st the Year Engineering Classes of Guimaras State College

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Abstract

Under the current normal education system, problems on teaching effectively have been a challenge to educators. State, universities and colleges have been pressured to shift from a face-to-face class to teaching strategies that mitigate the limitations of the traditional way of teaching. Digital natives also known as modern educators spend more class time interacting with students utilizing technological tools to fill in the gap in learning. They started using interactive videos, interactive in-class activities, and video conference systems to facilitate the development of learning. This includes the use of a Flipped Classroom. Aimed at addressing the difficulties encountered in teaching Mathematics during the new normal, this exertion determined the effect of using flipped classroom method in teaching Calculus. The study utilized 20 first-year Electrical and Mechanical Engineering students enrolled during the second semester of A.Y. 2019-2020 whose level of problem-solving skills and performance in Calculus were determined through administering a researcher-made test. The researcher employed a One-Group Pretest-Posttest Experimental Design. The experimental research used four sessions of video lessons at the time of pandemic season before the class interactions online. Hence, assignments were given inside the classroom which targeted collaborative learning. The application of the flipped classroom approach helped students improve their problem-solving skills and mastery in solving Calculus problems as shown in the posttest results. Thus, the flipped classroom method proved to be effective in enhancing the problem-solving skills and performance of students in learning Calculus.

Keywords

Calculus teaching, Learning Strategies, Engineering Education, Flipped Classroom



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A Review on Heat Transfer Enhancement in Heat Exchangers by Passive Techniques

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Abstract

In this paper, several researches on various heat transfer augmentation techniques (passive techniques) which are used to increase the overall heat transfer rate in different type of heat exchangers used in industries are closely reviewed. Firstly, experimental and theoretical researches on heat transfer enhancement techniques for achieve the effective heat transfer rate by using various passive heat transfer enhancement methods like Twisted tape inserts, changing surface texture, vortex generators, threaded pipes, extended surfaces and so on., are described in detail in this paper. At the same time by giving importance to the heat transfer enhancement, pressure drop characteristics. These passive techniques will leads to the more pumping power and cost will be increasing. By considering the pumping power and friction factor affecting the heat transfer coefficient are also reviewed in detail.

Keywords

Reynolds number, Pressure drop, pumping power, Friction factor, Nusselt number, Heat Transfer coefficient



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Preferred Choices Leads to Selective Abortion

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Abstract

Selective Abortions, a type of Abortion is the another most debatable issue across the world, more specifically in South-Asian countries like India, Bangladesh, Nepal and China. Due to the revolutionary development in the medical and biomedical sciences, a new world has been constructed where one can achieve what one desire for. Similarly, in the case of Planned Parenthood couples can make the preferred choices for their future child due to the availability of safe abortions, contraception, and advanced technology such as prenatal diagnosis. These preferable choices are leading to the great number of selective abortions, mostly in the form of female feticide¹ and infanticide². The purpose of this paper is to discuss the written account of selective abortions and ethical dilemmas associated with this issue.

Keywords

selective abortion, prenatal diagnosis, genetic disorder, child sex ratio, fetus



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Occurrence of Dermatophytes and Related Fungi in Domestic Habitats and Their Control

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Abstract

Among humans, the dermatophytosis, are skin diseases caused by a group of fungi called dermatophytes, have the highest incidence worldwide with an estimation of 20–25% of the population infected. *Microsporum*, *Trichophyton* and *Epidermophyton* genera are included in dermatophytes and their distribution in houses-sweeping dust, parks, gardens, hospitals are reported while others are related fungi having keratinolytic fungi. These group of fungi is opportunistic fungi. As we observed a sudden infection outbreak in Covid patients in year 2021 which was caused by Mucor, black, white and yellow fungi. Occurrence of these fungi in domestic habitats is a major risk to human and population. The nanoparticles are used as antimicrobial agents like antibacterial and antifungal activities against different types of disease-causing pathogens. Silver nanoparticles are very appealing for several applications because of their exceptional and outstanding characteristics, as enhanced permeability, retention effect and antimicrobial activity. NPs with a size range of 1-100 nm, and different shapes provide unique chemical, physical and optical properties because the size of the PdNPs played a critical role in their antifungal activity. Leaf extracts of *Passiflora caerulea*, *Annona reticulata* were used for the synthesis of metal nanoparticles and control of dermatophytes. This review focuses on distribution of dermatophytes in domestic habitats and perspective in dermatophytes infections treatments using plant extract and nanoparticles.

Keyword

Dermatophytes, plant extract, nanoparticles



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Review of Automated ML based techniques for Accident Prevention, Detection and Notification System

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Dr. Sachin Patel, Associate Professor Sage University Indore

Abstract

In this paper we have attempted to study different type of accident analysis ,their results, the way they are performed(Methods and techniques) and the kind of data they consumed. we are making this study to understand various kind of results generated by them . All these understanding of results established will be utilized to figure out different application aspects of them such as reporting to insurance agencies, finding out the mistakes causing the accident, and for their use in legal proceeding .these will also help to know a very important point regarding the accidents that is whether it was intentional or un-intentional. The mistakes due to which accidents happened comprises of large categories and examples within them. To be able to identify the correct one has always remain a challenge in terms of being accurate in spite of number of methods available to do so. Our attempt here is to limelight the technologies, accuracy, contacts and other situational factors of the accidents within which these methods works.

Keywords

ML, CNN, KNN, SVM, FCM, ANN, GSM, GPS



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Study of Drinking Water Services In The Mandalika SEZ

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Abstract

In accordance with the Mandalika SEZ Detail Masterplan 2016 and the 2018-2033 SPAM Development Plan in the Mandalika SEZ, the drinking water supply system (SPAM) in the Mandalika SEZ will be developed into a ready-to-drink water service with 2 (two) sources of water, 70% of the service using processed seawater from SWRO ITDC Mandalika and 30% of services use processed water from PDAM Central Lombok Regency. The focus of this research is to examine ready-to-drink water services sourced from PDAM Central Lombok Regency with 2 (two) aspects of the study, namely socio-economic aspects, and technical aspects. The results obtained for the socio-economic aspect, from 15 respondents overall are willing to become consumers of ready-to-drink water services with the majority (73%) being able to pay ranging from Rp 21,000 to Rp 36,000 (Willingness to Pay and Ability to Pay). For the technical aspect, from the total demand for ready-to-drink water of 20,210 m³/day, PDAM must be able to supply as much as 6,036 m³/day (30% service) with a flow rate of 75 L/second. The quality of PDAM processed water has not met the parameters of iron (Fe), manganese (Mn), and total coliform which requires the construction of a ready-to-drink water treatment unit with selected technology, namely using oxygen oxidation, rapid sand filter, and chlorination disinfection and requires an area of 728, 1 m²

Keywords

drinking water, drinking water treatment technology, Mandalika SEZ, rates



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A Machine Learning Approach to Predict SEER Cancer

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Abstract

The SEER (Surveillance, Epidemiology, and End Results) Database is among the persuading stores regarding malignancy pointers inside us. The SEER list helps impact investigation for the gigantic measure of patients' bolstered viewpoints for the most part ordered as an insightful segment, and impact. Assistant careful proof nearly the carcinoma dataset is ordinarily started on the site of the National Cancer Institute. The main point of this work is that depending on the individual's manifestations we'll foresee whether individuals are in danger of malignant growth or not. Perseverance and desire for the benefit of malignant growth patients have the option to upsurge prophetic exactitude and limit in the end cause better-educated decisions. To the current end, various amendments smear AI to disease data of the Surveillance, Epidemiology, and End Results database. It may be used to better forecast cancer in the medical sector and these studies can give a good chance to enhance existing models and build new models for uncommon cancers of minority groups in particular.

Keywords

SEER Cancer, Carcinoma, Epidemiology, Machine learning, Data mining



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Intrusion Detection and Repellent System for Wild Animals Using Artificial Intelligence of Things

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Abstract

A prominent conflict observed between growing masses and wildlife in India. Few of the major consequences are: Injury, loss of life, damage to human property, crop damage, destruction of human habitats and many more. Adaption of temporary solutions like electric fences, trenches, manual surveillance, guard dogs, etc. are used to protect the habitat but are not economic and proven to stay as an unsafe solution for wildlife as well the humans. In order to initiate safety for both wild animals and humans, some mitigation plan is required to solve this issue. While there are various IoT-based Animal Surveillance and repellent systems in market, a touch of Artificial Intelligence can make it more reliable and efficient. This will certainly push forward the bars that are kept limited with the use of IoT alone. The proposed system aims in protecting human habitation and livestock at the outskirts of the forest area/ fields by developing an automated system that detects the intrusion of wild animals and repels them back to the forest without causing any harm; Hence minimizing the dangerous consequences caused by the Human-Wildlife conflict.

Keywords

Animal Repellent Systems, Artificial Intelligence of Things, Raspberry Pi, Computer Vision, YOLO



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Application of Lean Six Sigma in Cast in-Situ Construction

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Abstract

Construction sector is living in continuous change environment. Rapid growth of construction industry and increasing requirements, demands of customer towards the safety, quality assurance has put pressure on construction companies for implementing advance quality tools. This paper studies the implementation of Lean Six Sigma in construction industry to reduce the deviation and variation in the process of construction activities. The DMAIC (Define, Measure, Analysis, Improve, Control) approach of six sigma and tools of each stage of this methodology is been discussed in this paper. A case study of a residential building has been carried out which demonstrates the application of Lean Six Sigma principles to some construction works: R.C.C work, brickwork and plastering. A defect assessment sheets were prepared for every work and the current sigma level of each has been computed. DMAIC methodology has been applied to improve the quality standards and reduce the wastages and variation in the process by analyzing the defects, their severity and root causes. The study aim at understanding the need of construction industry and customer requirements from quality perspective and fulfill them with the principles of Lean Six Sigma. The results of study suggest that the proper management and minor changes in the work procedure will help to achieve the desire quality standards.

Keywords

Lean Six Sigma, DMAIC methodology, quality standards, case study



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Cooperative Spectrum Sensing Based Cognitive Radio System for 5G Communication

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Abstract

In 5G-based cognitive radio, the primary user signal is more active thanks to the broad frequency band. The normal cooperative spectrum sensing only senses one characteristic of PU using one kind of detector. Cognitiveradio (CR) has arisen as a promising technique to the spectrum scarcity problem faced by all current just as recently proposed wireless administrations. In cognitive radio network (CRN) spectrum sensing assumes the main partand is considered as a basic part of CR. The individual CR node may not give valid detecting results due to shadowing and secret terminal problems of wireless communication channel. Therefore to affect these problems we further implement during this paper cooperative spectrum sensing based cognitive radio for 5G communication is proposed. In cooperative spectrum sensing (CSS) scheme, every CR will individually sense the spectrum then transfer its decision to a central node also referred to as fusion center (FC). Using probability of missed detection (Pmd) and probability of false alarm (Pfa) to recognize whether spectrum sensing is enough or not, improve performance using Pfa. The simulation outcome shows the higher performance compared to non-cooperation.

Keywords

Spectrum; Cooperative Communication; Cognitive Radio; 5G; False alarm



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Antimicrobial and Antioxidant Activity of *Physalis Peruviana* an in Vitro Study

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Abstract

Physalis peruviana L. is the commercially most important plant among the over 100 species of the genus *Physalis* (family Solanaceae). In this study the ethanolic extract of *Physalis peruviana* L. evaluated in order to explore antimicrobial and antioxidant activity. The phytochemical activity of *Physalis peruviana* with different extract were analyzed using standard methods. The antibacterial and anti fungal activity of ethanolic fruit extract of *P. peruviana* was determined using agar well diffusion method. The different antioxidant invitro activity was measured by means of Total Antioxidant activity, DPPH, H₂O₂, NO, Deoxyribose, ABTS, SO, lipid peroxidation, β carotene linoleic acid and SOD radical scavenging activity of the extracts.

Keywords

Physalis peruviana, Phytochemicals, Antimicrobial, Antioxidant



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Evaluating Ensemble through Extracting Best Information from Environment in Mobile Sensor Network

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Abstract

The import of this thesis is to design an efficient mobile sensor network to extract the best information possible from the environment to improve the forecast using the material information associated with sensing paths. The sensor networks are both discrete and continuous, each of which represent a different level of decision space.

A backward formulation is developed to quantify the information which computes the sensing choice by propagating the information backwards from the standard approach. This method is done for the discrete setting. This method proves to be more efficient than the regular forward approach for ensemble representation.

The motion planning problem in continuous setting finds the best commands for the sensor platform used. Though the main problem in this lies in the quantification of mutual information between the future variables and a past continuous history for measurement. As this work proposes the efficient form for mutual information and demonstrate an adaptive sampling which allows calculation of accumulated information with idealistic techniques.



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A Novel Fast Re-Routing Mechanism for Improvement of QoS in Data Transmission of Multimedia Applications Using P2P Network

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Abstract

The wireless network have tremendous changes in the multimedia applications. The novel technologies and standards increase the use of multimedia applications. The ubiquitous nature of multimedia services in wireless networks requires the integration of different features to improve the QoS of multimedia applications. The traditional wireless network services is unable to guarantee the multimedia user requirements. To address the limitations of traditional approaches, Michael Brinkmeier et al., introduced an analytical model to overcome the stability of overlay streaming topology . This model also denied the denial of service attacks in wireless networks. Even though, the analytical model works effectively and improved the performance of multicast wireless networks. But the model does not overcome the link failure occur in the wireless networks. The node or link failure leads to degrade performance of the networks. The wireless multicast network is an emerging technology for transmission of multimedia. Many researchers are introduced different approaches for secure data transmission in wireless networks. Presently the multimedia data transmission affected by node or link failure and dos attacks in network. To overcome the problem of present network, in this research paper proposed a Novel Fast Re-Routing(NFRR) mechanism for optimal multimedia transmission. The proposed mechanism maintains the secure path for data transmission.

Keywords

P2P Network, Multimedia Distribution, Re-Routing, Quality of Service



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Customer Loyalty to Sustainability-Driven Entrepreneurship: An Evidence from Jordan

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Abstract

This paper is conducted to explore how consumers' primary-level of involvement in sustainability-related causes correlate with their identification with the sustainability entrepreneurship. Then, this paper investigates how consumers' identification with the sustainability-related causes correlate with consumer commitment to the sustainability venture. This paper reviews previous literatures on the multi-centric view of sustainability-driven entrepreneurship. To comprehend how this type of venture will be able to gain its customers' long-term support, this paper examined the (3) key drivers and critical constructs of customer loyalty. Thereafter, this paper based its model on the model provided by Schlange, namely 'sustainability-driven entrepreneurship as a concept of integration', (Schlange, 2008) combined with two main (reconstructed-to-fit-my-model) hypotheses derived from the proposed research model of customer loyalty provided by Park, Chung, Hall-phillips, & Nwamaka, (2016). Meanwhile, a quantitative and descriptive study was conducted on 400 respondents from Jordan.

Despite the influence of sustainability-driven business practices on customer satisfaction and loyalty, the considerable research undertaken in this field of study are scarce. The contribution of this research focuses on how sustainability-driven entrepreneurs, with their venture's three core objectives of society, economy, and ecology, perceive the importance of their customers' sustainability-related causes in enhancing their performance and therefore increasing their customer loyalty.

The findings of this paper suggest that consumers' involvement in, identification with and commitment to sustainability-related causes are relatively correlated with their loyalty to the sustainability venture. The results also emphasize that sustainability driven ventures should not only attract the required customer segmentation through social media, but also enhance, strengthen, and engage their sense of identification, belonging and commitment.

Keywords

Sustainability driven entrepreneurship – Social driven entrepreneurship – Ecological driven entrepreneurship – Economic driven entrepreneurship - Sustainability related cause - Social related cause - Ecological related cause - Economic related cause – Involvement – Identification – Commitment – Customer Loyalty



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Effect of *Dactylorhiza hatagirea* (D. Don) Soo. Root Extract on Biochemical Parameters in Cyclophosphamide Induced Male Albino Rats

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Abstract

Dactylorhiza hatagirea (Orchidaceae) is a perennial herb inhabiting sub-alpine to alpine regions, ranging at elevations between 2500 and 5000 m. With palmately lobed rhizome and lanceolate leaves having a sheathing leaf base, it bears pink flowers with purple-colored notches and a curved spur. It finds wide use in ayurveda, siddha, unani, and folk medicine in curing disorders of the circulatory, respiratory, nervous, digestive, skeletal, and reproductive systems, besides boosting the immune system to fight infectious diseases. Secondary metabolites such as dactylorhins, dactyloses, and others exhibit a wide spectrum of pharmacological activities (antioxidant, antimicrobial, antiseptic, anticancer, and immune enhancing activities). Its use as a dietary supplement was found to be beneficial in increasing testosterone levels, resulting in improved sexual desire and arousal. Incessant overexploitation of this medicinally important herb has resulted in the dwindling of its populations in the wild, which has resulted in its classification as a critically endangered plant species. Holding immense significance in clinical research and drug discovery, work on the genomic front (transcriptomics) has recently been carried out to discover the wealth of unexplored genetic information for this perennial herb. Hence, the present study was carried out to investigate the biochemical effect of *D.hatagirea* on reproductive toxicity induced by cyclophosphamide (CP) in male albino rats. In sub-chronic toxicity studies, the ethanolic extract of *D.hatagirea* were prepared and the experimental animals were divided into six groups (G1 to G6). In the investigation, G1 was considered as control; G2 and G3 was given CP at varying doses and G4, G5 and G6 was administered with ethanolic extract and CP with varying doses. Testosterone were measured in the sera. Biochemical parameters like Malondialdehyde (MDA), and Catalase (CAT) were measured in the testicular tissue. Biochemical results showed a decrease in levels of Testosterone and CAT activities and an increase in MDA when CP was induced. Treating rat with CP and ethanolic extract caused an improvement in the biochemical parameters. Moreover Testosterone and CAT increased, while MDA decreased. The results of this study indicated that ethanolic extract protected rat against CP induced reproductive toxicity.

Keywords

Dactylorhiza hatagirea, Cyclophosphamide, MDA, CAT, Testosterone



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Comparative Study of Seismic Analysis of Vertically Irregular R.C. Frame using INDIAN and EURO Code

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Abstract

This research article carried out on comparison of codes (Indian and Euro) for seismic behaviour of R.C building frame. The main cause for the earthquake occurred in the R.C. building, if there is any irregularity in the structure and, if the structure is not constructed with proper strength, and not appropriately designed, which causes the structures to completely collapse. It is critical to understand seismic analysis and construct earthquake resistance structures for the safety of a multi-story building against seismic forces. It has been observed that the Gulf countries' construction requirements are primarily based on EURO standards. So that we analyse an R.C building frame of G+22 with vertical geometry irregularity using comparison with EURO standards and INDIAN standards. The response of the building is being calculated by the Response Spectrum approach with the help of ETABS software. The calculated results of irregular building are then characterized graphically and in tabular form. This research paper concentrated on the variations in outcomes found by using these codes i.e., Indian & Euro code. This comparative result is performed in the form of Storey Drifts, Overturning moment, Storey shear, and Storey Displacement in the X, and Y direction.

Keywords

R.C. buildings, INDIAN standards, EURO standards, lateral forces, ETABS, Response spectrum analysis, Base Shear, Displacement, Seismic Analysis, vertical geometry irregularity.



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Covid Support System for Home Isolation Patients

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Emmanuel

Abstract

Today the due to covid outbreak many people are affected and there is no enough place to treat the patients so the patients with mild symptoms need to be home isolated in order to know the patient condition always patient cannot approach doctor. To support this fight, A Covid Support System (CSS) is proposed for monitoring patient's health status and to provide the prescription remotely. Besides the doctor can also analyze and diagnose from the data collected from the user using IOT. A web-based application is implemented for efficient patient-doctor communication. With the proposed system patients can be remotely monitored from their homes. Medical devices connected to internet can be used for physiological measurement such as heart rates, blood oxygen saturation and body temperature and send the measurement result to a server.

Keywords

Covid-19, IOT (Internet of Things), Spo2 (Saturation level), API (Application Programming Interface)



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The Covid-19 Impacts on Higher Learning Institutions' Leadership: Trend, Opportunities and Challenges

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Abstract

The outbreak COVID-19 pandemic plays a significant impact on the functional of Higher Learning Institutions (HLIs) globally. This is especially true in the area of leadership. But what exactly are the impacts of Covid-19 pandemic on HLI's leadership? To understand the impacts of Covid-19 pandemic on HLI's leadership, exploring the trends, potentials and the challenges associated with the issue is immensely valuable. Accordingly, by applying a qualitative approach through the examination of information gathered from various sources such as books, journals and media reports, the paper presents a discussion on trends, potential and challenges of Higher Learning Institution's (HLI) Leadership during Covid-19 pandemic. The paper is expected to contribute in the understanding of trends, potential and challenges of Higher Learning Institution's (HLIs) Leadership during Covid-19 pandemic, thus led to the improvement of HLI's leadership despite the pandemic.

Keywords

Leadership; Higher Learning Institutions; Covid-19; Literature Review



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Security Challenges in Blockchain Based Digital Document Verification Solutions: A Survey

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Abstract

Education is crucial in anyone's life and knowledge complemented with a good degree certificate promises a bright career. Whenever a student applies for the job, the organization verifies all certificates manually, which is a very tedious process. Sometimes students may produce fake certificates, and it is difficult for the organization to identify them. The process is also affected by the verification process of universities. Digital Document Identity Management is challenging as well. Many solutions have been proposed to eliminate the fake certificate problem, but Blockchain technology is best suited because of its immutability property. Blockchain Technology is a decentralized shared distributed ledger that ensures the security, validity, and confidentiality of digital certificates. Still, current solutions of Digital Document Management based on Blockchain do not offer tamper-proof certificates. In this paper, we have identified the security challenges in Blockchain-based digital document verification solutions.

Keywords

Blockchain, Digital Certificates, Security, Attacks, Smart Contract, Distributed ledger



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Machine Learning based Hybrid Approach for Email Spam Detection

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Abstract

Spam e-mail is one that told the conspicuous crises in this growing world today and had caused a huge financial failure. Surprisingly Though the methoords and techniques for this crisis are usually being refreshed regularly, the current system is not that much sensitive. The results of those approaches and techniques do not seem to be wise at the current time also email spam is developing in Association with an appealing degree of growth. Like this, only a lot of profitable fishing recognition innovations Are the threat of phishing emails is expected to be eliminated. In this document, we will first look at the construction of the email so the email addresses. I Will try to have a different approach all over this paper with the data management ocr, Associated degree ANN to find spam email. To assess the suitability of ANN we got a tendency to use a Kaggle data set that has a less proportion of spammed emails and real emails. The beta Outputs show that the positive yield of ANN appear at the ratio of 97.5 8% then the FPR is 0.03 3% higher perfection and low perfection of FPR promises that the modification Could be able to distinguish in the phishing emails with high likelihood. And even modifying can authenticate emails as A's near Agar as could also be extracted below the circumstances. Sach promising outcomes is best than this recognition technique. And it collectively works on the HTML-based templates emails that are hard to find and makes sure the suitability of ANN in typical spammed emails.

Keywords

Artificial Neural Network, Optimization, Spam, phishing attack, OCR, Template Email recognition, Hybrid approach, Database Management



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Analysis of Critical Speed and Natural Frequency of Shaft with Multi – Crack and Multi Masses using Different Materials

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Abstract

A natural frequency was analyzed and critical speed was predicted by using Campbell diagram and analysis was also performed for validation. The results represents that a solid shaft with three cracks with two masses and material like structural steel and titanium alloy the critical speed with increase in a RPM continuously found in structural steel. The natural frequency of shaft is compared by using two types of materials and is predicted that at solid shaft with multi – crack and masses of titanium alloy exhibits lower critical speed.

Keywords

Critical Speed, Campbell Diagram, Rotor Dynamics, Titanium alloy, Structural Steel



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Occupational Health and Safety in Steel Foundry: - A Case Study

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Abstract

A case study is performed in five randomly selected medium-scale micro steel foundries of the Vadodara district of Gujarat state of India. 20 non-smokers workers were selected between the age group of 18 to 45 years. Detail questionnaires' about the safety condition present in the company before and after the Risk and safety training program being recorded and research survey is done in this paper. Further, it's found that the safety rules are must be followed by every industry so that chances of accidents have been reduced and a better working environment is created for the workers.

Keywords

Foundry, Safety, Hazardous, Training



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Non-Linear Dynamic Analysis on Low-Rise Structures under Blast Loading

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Abstract

The present paper investigates the effect of unexpected actions, such as blast loads occurred rarely due to terrorist attacks on high rise residential structures located on busiest areas. Even the Blast loads occurs away from structure with some distance, it causes huge loss to the structure in terms of strength and durability. A bomb explosion can cause internal and external damage to the structure, which internally leads to loss of public life. Due to this damage from such extreme load conditions, efforts have been made to improve methods of structural analysis and design to resist the blast loads. In present paper, A parametric study on a Low-Rise (G+2, G+5) buildings is done to find out the dynamic response of building due to blast load. The low-rise structures were modelled using SAP2000 software. The results obtained in terms of time histories for different charge weights (10 kg, 20 kg and 30 kg) and for different standoff distance (10 m, 20 m, 30 m, 40 m and 50 m) are mentioned in this paper. At the end, retrofitting measures can be done to minimize the dynamic effect of a structure due to blast loading.

Keywords

blast loading, low-rise structure, retrofitting measures and SAP2000 software



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Sustainable Development of Natural Gas Vs Renewable & Alternative Energy at Abroad

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Abstract

Background: It has been observed that the development of Natural Gas in the form of Piped Natural Gas for household sector & Compressed Natural Gas for transport and industrial sector is a part of City Gas Distribution in India is in evolving stage. Before the establishment of Petroleum and Natural Gas Regulatory Board, the sector was not so structured & directional. Later on, the safety practices of natural gas business were looked into and guidelines were framed. How the strategic marketing of natural gas is done in the form of Piped Natural Gas for household sector & Compressed Natural Gas which is getting influenced by product supply , pricing mechanism as per demand, place with infrastructure and promotion using innovation & technology is also discussed in this paper.

Result: This paper tries to find out the marketing strategies required to make use of natural gas as substitute to all alternative energy like coal, petrol & diesel and renewable energy like solar & wind energy available in India and particularly at Aburoad market. The result obtained on the basis of qualitative and quantitative survey indicate that as the natural gas market in India is not so matured and also there is no natural gas market Aburoad. Also the increasing pricing of alternative energy and insufficient availability of renewable energy is paving the path for higher natural gas demand and consumption which is envisaged in future perspective. The results indicate that Infrastructure & Demand are exerting stronger influence than Supply & Technology on Natural gas business at Aburoad. It means that the management needs to take steps to build up the Infrastructure & ensure Demand for strategic marketing of natural gas as compared to alternative and renewable energy.

Conclusion: Considering the climate change and for improving the living standard of the resident in the pollution free environment, it is very much important to proliferate the natural gas market and other renewable energy as compared to alternative energy.

Keywords

Natural Gas, Marketing, Product, Place, Price, Promotion

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