

# International Conference on **COMPUTER, CYBERNETICS AND EDUCATION**



# ICCCE-2023

Feb 23<sup>rd</sup> & 24<sup>th</sup>, 2023 | Jakarta, Indonesia

*Organized by*

**Institute For Engineering Research and Publication (IFERP) - Indonesia Chapter**

*In Association with*

**UNIVERSITAS FAJAR, Indonesia**

**CMR ENGINEERING COLLEGE, Hyderabad, India**

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IFERP-Explore

# PREFACE

The **International Conference on Computer, Cybernetics and Education (ICCCE- 2023)** is being organized by **Institute For Engineering Research and Publication (IFERP) - Indonesia Chapter** in Association with **IUNIVERSITAS FAJAR, Indonesia & CMR ENGINEERING COLLEGE, Hyderabad, India** on the 23<sup>rd</sup> - 24<sup>th</sup> February 2023.

The “**International Conference on Computer, Cybernetics and Education**” was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of “**Cybernetics, Human Computer Interaction, Systems Engineering, Education, Mathematics**” which were given International values by **Institute For Engineering Research and Publication (IFERP)**.

The International Conference attracted over 300 submissions. Through rigorous peer reviews 125+ high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

**ICCCE-2023**



# Managing Director

## **Mr. A. Siddth Kumar Chhajer**

*Managing Director & Founder  
Institute For Engineering Research and  
Publication (IFERP)*



On behalf of IFERP & the organizing Committee, I express my hearty gratitude to the Participants, Keynote Speakers, Delegates, Reviewers and Researchers.

The goal of the ICCCE is to provide knowledge enrichment and innovative technical exchange between international researchers or scholars and practitioners from the academia and industries in various fields of academics. This conference creates solutions in different ways and to share innovative ideas in the field of Engineering, Education & Technology. ICCCE provides a world class stage to the Researchers, Professionals, Scientists, Academicians, and students to engage in very challenging conversations, assess the current body of research and determine knowledge and capability gaps.

ICCCE will explore the new horizons of innovations from distinguished researchers, scientists and eminent authors in academia and industry working for the advancements in Computer, Cybernetics and Education from all over the world. ICCCE hopes to set the perfect platform for participants to establish careers as successful and globally renowned specialists in various fields of Academics.

# Chief Executive Officer

**Mr. Rudra Bhanu Satpathy**  
*Chief Executive Officer (CEO) & Founder  
Institute For Engineering Research and  
Publication (IFERP)*



IFERP is hosting the International Conference on Computer, Cybernetics and Education (ICCCE-2023) this year in the month of February. The main objective of ICCCE-22 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, Staff, Professors, Reviewers and Members of the organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their painstaking effort to make this conference successful.

# Keynote Speaker

## **Dr. Jacob F N Dethan**

*Vice Rector*

*Universitas Buddhi Dharma*

*Banten, Indonesia*



Jacob F. N. Dethan, PhD currently serves as Vice Rector for Student Affairs and Cooperation at Universitas Buddhi Dharma, Indonesia. He was previously awarded with two prestigious scholarships namely Australia Awards Scholarship and Monash University Malaysia Graduate Research Merit Scholarship for his postgraduate studies. He was also awarded for the best oral presentation at ICEST International Conference 2018. He is also a certified professional lecturer issued by the Ministry of Research, Technology and Higher Education Indonesia and professional engineer issued by the Institution of Engineers Indonesia. His research interests are Nanotechnology, Hydrogen Energy, Energy Storage, Power Electronics, Strength of Materials and Heat Transfer. He is a reviewer in reputable journals such as Materials Today Chemistry, IEEE Transactions on Power Electronics, International Journal of Hydrogen Energy and Scientific Reports. He has also published various opinion pieces in detikcom, one of Indonesia's best online news sites and another popular one, kompasiana.

### **Welcome Message from Dr. Jacob F. N. Dethan**

It is my pleasure to give a keynote speech at International Conference on Computer, Cybernetics and Education (ICCCE) 2023 in Jakarta which is organized by Institute for Engineering Research and Publication (IFERP) with Fajar University and CMR Institute of Technology as academic partners. The use of electric vehicles has been promoted by various countries around the world as a viable way to reduce our dependency on fossil fuels. However, one big problem related to the use of electric vehicles is their slow charging time. Thus, fuel cell electric vehicles (FCEVs) which are powered by

hydrogen has emerged as another promising option. Yet, the performance of FCEVs is strongly affected by an efficient hydrogen storage system.

Therefore, I will be presenting about the use of 2D materials as a way to improve hydrogen storage performance for FCEVs applications.

Best wishes for all participants of this intriguing conference and I look forward to meeting you in Jakarta! Special thanks also dedicated to IFERP, Fajar University and CMR Institute of Technology for organizing this important conference.

# Keynote Speaker

## **Mr. Arun Kumar Singh**

*Chief Executive Officer*

*IndiaOne Air*

*Mumbai, Maharashtra*

*India*



Mr. Arun Kumar Singh is the Chief Executive Officer & Accountable Manager at IndiaOne Air. The airline aims to improve regional connectivity to / from tier 2 & 3 cities and is poised to launch shortly. Prior to undertaking this assignment, Mr. Singh was the CEO of Air Deccan. He started his career with Jet Airways and subsequently worked with Kingfisher Airlines. He has worked and lived in four different countries and has over 23 years of work experience. He brings with him more than two decades of experience in managing all strategic, technical and commercial aspects of airlines involving both large and start-up companies. He is a strong leader who excels in the dynamic and challenging environment whilst remaining pragmatic and is focused on safety as the key objective. He has earned significant experience from various well-known companies such as Jet Airways, Kingfisher Airlines, Vectra UK Limited and has worked in India, UK, Sri Lanka and Cambodia prior to joining IndiaOne Air.

# Session Speaker

## CYBERNETICS

### **Prof. Deni Darmawan**

*Department of Educational Technology and  
Communication Science  
Universitas Pendidikan  
Kota Bandung, Jawa Barat  
Indonesia*



Deni Darmawan is a Professor with the Highest Hi-Index, 88 and Totally Citation 11952 on Google Scholar of all professors in the Indonesian Education University. In 2021 until now it has been ranked first in the field of Bio-communication Through ICT Implementation. In 2022 Get the first rank from a professor at UPI for the same. In University Level he is as The First Rank in Educational Research Bio-communication and Artificial Intelligence (AI) for Big Data Digital Management. In 2021 Have the new Intellectual Property Rights Oriented Products about Virtual Community Digital Learning Nusantara (VCDLN) from the Ministry of Human Rights of the Republic of Indonesia. In October, 20-21 2022 he published the Database of VCDLN-TVUPI and Developed of Super-App Mobile VCDLN-Learning version 1.1., and was presented in Vancouver Canada and October 28-29, 2022 in University of Quebec Montreal. The Last presentation of VCDLN he took in November 9-11, 2022 at National University of Villa Maria (UNVM-Argentina). Currently, he is a Lecturer at the Department of Communication Science at the University of Education of Indonesia, with expertise in Computer-Mediated Communication (CMC), Development of Communication Technology Bio-communication. Since 2013 in Mexico at the Orbicom Conference, he has contributed research papers, until now as an active Orbicom member. In 2021, 2022, and 2003, Deni Darmawan received Highest Researcher and innovator Awards from the Ministry of Education Culture and Research Technology of Republic Indonesia. Since 2019, his expertise has been in Communication Technology for education and Culture in developing information system technology networks and Long Distance Network Television Technology. Most of his international research is in the field of Information and Communication Technology for education

and Communication science. In 2018 he was selected as the First Rank Outstanding Lecturer in the Faculty of Education. He has written 20 articles with reputable international publications indexed by Scopus have been published with Hi-5 in Scopus Preview-Elsevier publication. He has written 18 international books and 35 National books.

#### **Welcome Message from Professor Deni Darmawan**

I am very pleased to participate as a speaker at an international conference in 2022 virtually with the theme "Advance AI & Data Analytics with Implementation Techniques" in collaboration with the Institute For Engineering Research and Publication (IFERP). Strategically, in the Internet of Things era with the application of Artificial Intelligence work systems in processing more and more data, it will be able to create a great Future Generation of the World. Advances in this field of technology must be balanced with efforts to continue studying it so that all parties, both universities, and industries with existing multi-platforms, are able to educate the world community. I wholeheartedly urge all participants of this conference to move forward in conducting a number of studies in the field of Sustainable Technology.

My special thanks to the organizers for their great efforts in making this scientific event remarkable, stimulating, and successful. My thanks also go to all the participants. Wishing you all the best and success.

# Session Speaker

## HUMAN COMPUTER INTERACTION

**Mr. Naresh Choudhary**

*Vice President*

*Infosys*

*Bengaluru, Karnataka, India*



Naresh is involved in setting the direction for identification and deployment of software tools, reuse, digital platforms for productivity across the organization to enhance client value and improve operational efficiency as part of the Shared Digital Infrastructure.

Naresh leads the effort on Engineering Excellence, Building and Deploying Enterprise Platforms for Developer Productivity & Quality across Agile & DevSecOps, Open Source, Cloud, Quality Assurance, Driving collaboration with Infosys' key technology partners and leading several Innovation, Change programs as part of the Infosys Live Enterprise. He holds a diverse portfolio in software development, quality system design, process definition, implementation, consulting, training, audits, and assessment. He has sound knowledge on various quality models, methodologies and frameworks such as Agile, DevSecOps, SRE, CMMI, ISO, Six Sigma, and MBNQA.

His expertise in software delivery, consulting and quality assurance functions has provided him significant opportunities to work with various clients on key transformation programs. He is an active participant on several product councils, an IBM Champion and member of the IBM SW Labs Board of Technical Advisors. He has won many accolades from various quarters in Infosys for his innovative and practical solutions and team management.

His specialties are Large Program/Transformation Management, Program Management - Manage Large programs, Change Management, Quality Assurance - Knowledge of Agile, DevSecOps, SRE, CMMI, ISO, Malcolm Baldrige, Six Sigma, Technology - Java, J2EE, .Net, Open Systems, Software Development, Product and Solutions approach.

# Session Speaker

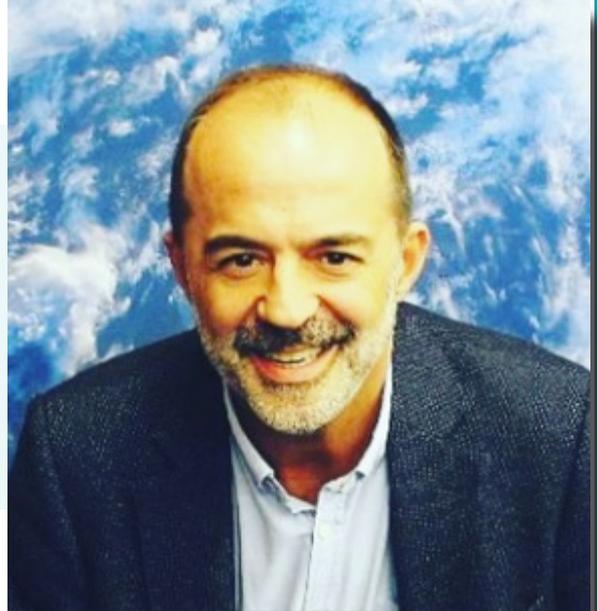
## SYSTEMS ENGINEERING

### **Jordi Rafols Fernandez**

*CEO*

*Innoget*

*Catalonia, Spain*



Jordi Rafols Fernandez is the Founder and CEO at Innoget.com, the trusted global Open Innovation, science and technology network.

Over 10 years in the Chemical Industry and 14 years of Open Innovation and technology transfer in the Internet business. As part of the Catalan National program “Startup Catalonia”, currently coaching and mentoring multiple technology based Start ups to help them develop and implement their strategy and accelerate business growth.

He holds a MBA and a Corporate Finance degree and has been involved in Corporate Venture and valuation projects. As innovation conference speaker he has shared my view on Open Innovation and collaborative R&D and innovation ecosystems (Industry, Universities, Science & Technology parks, Clusters, ...) in many international and cross-industry events in London, Edinburgh, Boston, Berlin, Singapore, Paris, and Barcelona. He has also given lectures to MBA program alumni at ESADE Business School on on-line Open Innovation business models.

His Specialties include Intellectual property commercialization, Open Innovation, BlockChain, Smart Contracts, Technology Scouting, Innovation Networks, Innovation Management, Social Media, Internet business models, Entrepreneurship and Corporate finance, Technology acquisition, Global community, Online communities, Communities across, New business Models, Digital Marketing.

His Interests are Blockchain, AI, Virtual Reality, Robotics, Big Data, Open Data, IoT.

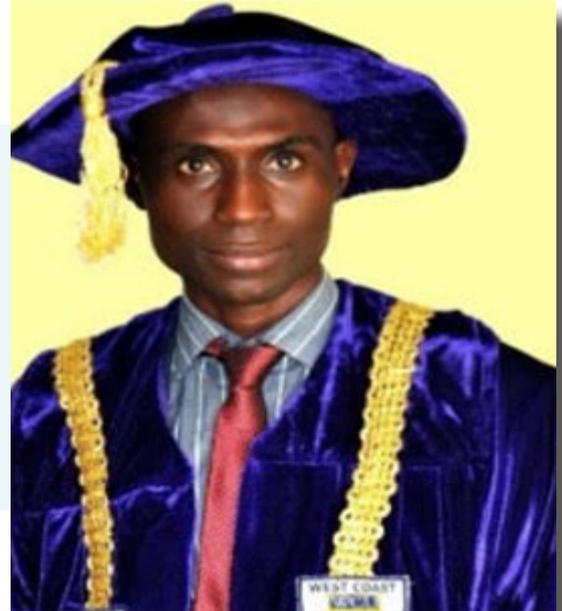
# Session Speaker

## EDUCATION

### **H E UNESCO Laureate Prof Sir Bashiru Aremu**

*The Vice Chancellor*

*Crown University Int'l Chartered Inc,  
USA Santa Cruz in Argentina and partners con-  
stituent campuses worldwide  
Ghana*



His Excellency, UNESCO Laureate, World Acclaimed Distinguished Professor Emeritus (on merit) Sir Bashiru Aremu has been appointed as a principal officer all over the world at higher education institutions and held the following positions at various board of trustees: Pro Chancellor/Chairman (President) Board of Trustees, Chartered Intl. Da Vinci University, Vice Chancellor, Crown University Intl Chartered Inc. Vice President for International Affairs (Vice-Chairman International Affairs of Board of Trustees) at West Coast University USA; Vice President International Affairs (Vice-Chairman International Affairs of Board of Trustees) Sastra Angkor University Kingdom of Cambodia; Deputy Director-General for Africa and Research Professor at International Biographical Centre in Cambridge, UK. He also held positions as a World Grand Chancellor at the Chartered World Order of the Knights of Justice of Peace; The World Grand President, International Chartered World Learned Society, World Grand President at Africa International Institute for Professional Training and Research, World Grand President, The Chartered World Institute of Encyclopedia of Books Inc., World Acclaimed Distinguished Research Professor and Fellow Editorial International Advisory Board at Cambridge Scholars Publishing, Cambridge, United Kingdom, Member Corporate Advisory Board/Visiting Professor at, Bharath University India, Visiting Professor at Mandsaur university, India , The Founder, Prof Emeritus (On merit )Sir Bashiru Aremu Intl. Foundation Inc, Cum Vice President of Board , The International Centre for Eye Research and Education, Argentina in South America and many more that made the world pronounce him as a World Acclaimed Distinguished Professor Emeritus on merit, honored and ranked by various higher institutions and organizations world-wide. UNESCO

Laureate: He received a golden certificate with a gold medal after recommendation as a Most Academy Excellent World Acclaimed Distinguished Professor Emeritus on Merit, Honored and Ranked of Computer Science, Information and Communication Technology as a highest UNESCO Laureate for an outstanding creative and intellectual achievement.

# Session Speaker

## MATHEMATICS

### **Dr. Tarik Ahmed Rashid**

*Professor*

*Computer Science and Engineering  
Department*

*University of Kurdistan Hewler,  
KRG, Iraq*



Tarik A. Rashid received his Ph.D. in Computer Science and Informatics degree from College of Engineering, Mathematical and Physical Sciences, University College Dublin (UCD) in 2001-2006. He pursued his Post-Doctoral Fellow at UCD from 2006-2007. He has been included in the prestigious Stanford University list with 2.7% of the best world researchers for the year 2020. Tarik is on the list of top 10 researchers in the Al-Ayen Iraqi Researchers Ranking (2022).

He served as a Dean, the College of Business and Management Studies in SABIS University from Jul 2009 - Apr 2010. As the Dean of the College he provided leadership and vision to the College's administration, academic programs, curriculum development, and faculty and staff development.

He was a Professor at Software and Informatics Engineering, College of Engineering, Salahaddin University- Erbil, Kurdistan Professor from April 2010 to Dec 2021. Currently, he is working as a Professor in Computer Science and Engineering, University of Kurdistan Hewler, Hewler, KRG, Iraq.

His search work spans in three areas are Development of Machine Learning (Neural Networks, Recurrent Neural Networks, Multi-Context Recurrent Neural Networks, Auto Regression-Multi-Context Recurrent Neural Networks, Kohonen Network, Radial Basis Function, Support Vector Machines, and Ensemble Networks, Learning Algorithms Supervised and unSupervised algorithms, Back Propagation Learning Algorithms, Nearest Neighbor Algorithm, Backpropagation Through Time, Real-Time Learning Algorithms) to deal with time series applications.



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# ABSTRACTS



## ECG Learning MOOC in Combination with Mobile ECG Application

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### Abstract:

Background: Electrocardiography (ECG) is a simple yet very useful examination to rapidly detect heart problems. To be able to recognize basic cardiac abnormalities and act accordingly, general practitioners should practice over time. Massive open online course (MOOC) and mobile learning application can be suitable learning media for those who seek for flexibility and accessibility.

Aims: This study aims to 1) develop an integrated curriculum of MOOC and mobile learning application; 2) perform user testing of the learning media.

Results: A total of 5 modules and quizzes were developed using shareable content object reference model (SCORM) in a Moodle-based learning management system. Each module was linked to the mobile learning application. User testing included 7 subjects which were recruited through convenience sampling. They were general practitioners with over 10-year experience. Only 1 who was able to complete the course. Half of them found difficulties in managing time between learning and other activities, third of them had problems with the MOOC features, and the rest were stuck in some unresolved quizzes thus could not go further. Although the system was unlikely suitable for users over 40 years old, all subjects agreed that it was convenient, contained relevant materials, and had interesting interface.

Conclusion: Integrated learning system of MOOC and mobile learning application is potential for use among younger general practitioners. Its management should be robust to ensure good engagement and completion rate.

### Keywords:

online learning system; MOOC; mobile learning application; user testing; ECG learning system.

# **Tracking Analysis Of Information Technology Education Alumni At State University Of Surabaya In Efforts To Improve Main Performance Indicators In Higher Education**

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[1][2][3] Universitas Negeri Surabaya

## **Abstract**

Universities need to carry out Tracer Studies because they need feedback from alumni in their efforts to improve education systems and management. The implementation of a tracer study should ideally be carried out for university alumni in 1-3 years after graduation. Three benefits can be obtained from carrying out a tracking study, namely: 1) knowing stakeholder satisfaction, in this case, alumni, related to the learning experiences they experience as a tool for evaluating institutional performance; 2) obtaining relevant advice and input as a basis for institutional development, related to competitiveness, quality, and working experiences of alumni which can be used as an effort to seize opportunities and minimize various threats to future competition; 3) improve the relationship between graduates and their alma mater. The specific objective of this research is to find out how the results of the Tracer Study are relevant to the development needs of alumni in the world of work. This research method is quantitative research with a participatory approach. Data reduction, data presentation, and drawing conclusions are used in this data analysis technique. The results for alumni of the Information Technology Education study program were 82% tracked. Of the 62 alumni targets, 51 alumni data was successfully collected.

## **Index Terms**

Tracer Study, State University of Surabaya, Alumni, Information Technology Education

## Tracking Analysis Of Informatics Engineering Study Program, State University of Surabaya

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<sup>[3]</sup> Ramadhan Cakra Wibawa

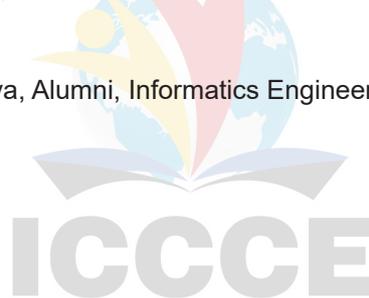
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### Abstract

Tracer study is a graduate tracing study that is able to provide useful information for higher education evaluation purposes and can then be used for improvement and quality assurance of higher education institutions. Tracer studies are also useful in providing important information regarding the relationship between higher education and the world of professional work, assessing the relevance of higher education, information for stakeholders, and the completeness of the requirements for higher education accreditation. This study aims to find out the results of a Tracer study of Informatics Engineering undergraduate alumni which can later be used to support learning and curriculum in the Informatics Engineering undergraduate study program, State University of Surabaya. This research method is quantitative research with a participatory approach. Data reduction, data presentation, and conclusion are used in this data analysis technique. The search results for Informatics Engineering study program alumni were 92.68% tracked. Of the 41 alumni targets, 38 alumni data were successfully collected.

### Index Terms

Tracer Study, State University of Surabaya, Alumni, Informatics Engineering



# **Modify Elements of Some Tools in Finale Music Program to Produce A Template to Write Numerical Notation**

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Pascasarjana dan Fakultas Seni Keagamaan Kristen, Institut Agama Kristen Negeri Ambon

## **Abstract**

Finale is one of music notation programs that used to write music, but this program is not for numerical music notation. The purpose of this article is to produce a template to write numerical notation with the Finale music program. Using an action research method, this research modifies elements of some tools in Finale Music Program and gets a template which is used to write numerical music notation.

## **Keywords:**

Finale Music Program, Numerical Notation, Modify Elements of Some Tools, Template to Write Numerical Notation.



## Las Piñas Flood Monitoring System with Alternate Route Using Bayesian Network Via Mobile Application

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### Abstract:

Flood inundation time has increased significantly due to climate change resulting in temporary loss of mobility by the public, as well as during disaster management. The Las Piñas Disaster Risk Reduction and Management Office (LPDRMO) operation relies on real-time updates of the situation in times of calamities. Barangay responders who give update on flood situation in the city are at risk of hazards since manual measurement is being done. According to the National Disaster Risk Reduction Management Plan, technological advancement in disaster mitigation should be developed and incorporated during disaster operation. Internet-of-Things (IoT) was used to create timely update for weather parameters across the city; float switch and ultrasonic sensors were used to identify the flood height, and DHT22 was used for temperature and humidity. The Arduino microcontroller for flood station is to process the data and transmit and receive it, via Short Message Service (SMS), analyze through the server using Jetson Nano. A Bayesian Network Analysis classifier is being used to identify whether an area is passable. Then Dijkstra Shortest Path Algorithm was used to reroute traffic that would consider the "Friendship Route" – an interconnected road network of Las Piñas City across various villages and subdivisions to ease traffic along the major thoroughfare. Users could use a cross-platform mobile application available for Android and iOS operating systems made using React.js and React Native. The application is tagged as e-WAS (electronic Flood Warning and Alternative Route System).

The logo for the International Conference on Computer, Cybernetics and Education (ICCCCE) features the acronym 'ICCCCE' in a bold, sans-serif font. Above the text is a stylized graphic of an open book with rays of light emanating from it, set against a circular background.

## Using Plotagon in Enhancing Secondary Four English Learners' Narrative Writing Skill

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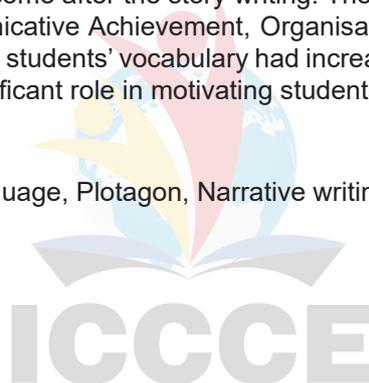
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### Abstract

The frequent usage of digital tools and technology has motivated teachers and students to become more active, innovative and creative in the lesson, especially to those learning English as Second Language Learners. The implementation of 4Cs in classrooms, particularly Critical thinking, Creativity, Communication, and Collaborative is also being suggested to put into teaching and learning practice. However, students' interest level in writing English is extremely low as multiliteracies are not well practised in the writing skill. Therefore, in this study, researcher would like to determine the effectiveness of Plotagon, an animated video making application in enhancing Secondary students' narrative writing skill. 43 participants have participated in the study and created videos in group. Thematic analysis is used to analyse students' learning outcome after the story writing. The study found that students' narrative writing skill, which comprises Content, Communicative Achievement, Organisation and Language, had improved with the assistance of Plotagon tool. Nonetheless, students' vocabulary had increased while peer-learning takes place. Thus, the use of digital storytelling plays a significant role in motivating students to write narrative essays.

### Keywords:

4Cs classroom, English as Second Language, Plotagon, Narrative writing skill



## Using Natural language processing (NLP) based techniques for handling customer relationship management (CRM)

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### Abstract

The paper talks about using NLP and its techniques to simplify CRM systems. The use of NLP techniques tries to remove human error in CRM systems. In CRM systems the entry of information has always found errors in regard to customer and service provider calls. Recently the data entry by the service provider has seen massive errors resulting in unsatisfactory engagement with the customer. The paper describes the use of NLP application of text to speech conversion and text summarization along with the use of NLP modules such as tokenization and stop word removal to manipulate the text to retrieve valuable information has improved the CRM system management. The paper shows flowcharts of working from input as entry of audio file using a GUI and producing the output in the form of a python dictionary containing all the required information. The paper shows the pre-processing of audio files where the NLP modules have been used. The paper illustrates the outputs and its working from start to end. The research talks about the future scope of CRM system and increasing its productivity by integrating factors of Artificial Intelligence.

### Index Terms

Natural Language Processing (NLP), Customer Relationship Management(CRM), Graphic User Interface, Artificial Intelligence, Spell Checker, Speech-to-text.

ICCCCE

## The Agglomerative Hierarchical Clustering Approach determines the Effectiveness of Online Learning

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### Abstract

The rapid development of ICTs and their use has facilitated information generation in accessing knowledge base components for large segments of society. In education, important to create an online environment, in conjunction with the managed information system, to develop a managed learning environment that can support the program through a user interface that is standard across institutions. In this case, interaction reveals itself as one of the main components not only in the context of online learning. Even, part of the gap between learning theory and instructional theory can be bridged through the analysis and modeling of student activities in asynchronous discussions. The Agglomerative Hierarchical Clustering (AHC) approach is used as a method in clustering student interaction patterns in online learning in this study. The highest results obtained are average link testing so that the best agglomerative technique for student data is equal to 0.5913283. So that the cluster 1 grouping consists of 20 students in the active student category, the cluster 2 grouping consists of 5 students in the reactive student category and the grouping in cluster 3 consists of 15 students in the interactive student category.

Keywords

**student interaction, Agglomerative Hierarchical Clustering (AHC), online learning**

## Assessment of ICT Competency Schemes in the Philippines: Challenges of ASEAN

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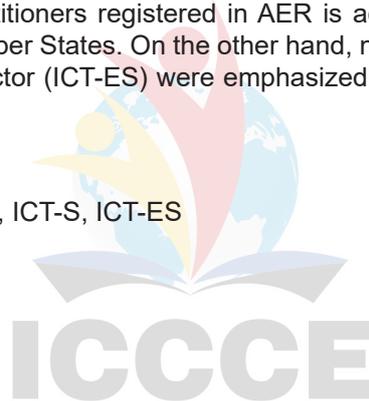
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### Abstract:

Information (Computing) Technology and Communications Technology have been converged that formed digital convergence. Since the year 1994 when the Philippines was connected to the internet for the first time, digital convergence in the Philippines encountered a number of challenges that include the following but not limited to: availability of computer hardware, availability of computer software, reliability and stability of internet services, and digital literacy of the people. Surprisingly, the number of Filipino engineering practitioners (Professional Engineers, Registered Engineers, and Technicians) registered in the ASEAN Engineering Registry (AER) is actually 2800 compared with 9530 over-all registrants as of year 2022. Divided equally by ten (representing the ten ASEAN Member States), the equal number distribution is 953 which was lower than the number of Filipino registrants. It seemed that the number of Filipino engineering practitioners registered in AER is actually higher than the average number of registered practitioners per ASEAN Member States. On the other hand, not all ICT practitioners were engineers thus ICT Sector (ICT-S) and ICT Enabled Sector (ICT-ES) were emphasized in this paper to delineate the ICT scenario in the Philippines.

### Keywords:

ASEAN, benchmark, digital convergence, ICT-S, ICT-ES



# Implementation Of Markerless Augmented Reality In The Hockey Sports Equipment Recognition Application Using The Android Based User Defined Target Method

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## Abstract

Hockey is one of the sports that has been played in Indonesia, but this sport is still not popular enough and hockey sports equipment is also rarely found in sports shops in general, for that it is necessary to introduce hockey so that people are interested in starting to play the sport this. One way to introduce this sport is to utilize augmented reality technology so that people can get to know this sport efficiently and flexibly. One method for displaying augmented reality objects is using markerless with user defined target techniques. In the application, accuracy testing is carried out using distance, light intensity and the target to be used as a marker. As for the results of testing at an angle, applications can display 3D objects on dark targets with contrast using a minimum reading angle of 0° and a maximum of 45° and light targets with contrast with a minimum reading angle of 0° and a maximum of 45°. In testing the distance, the application is able to display 3D objects against dark targets with contrast at a distance of 50 cm to 70 cm and bright targets with contrast at a distance of 50 cm to 70 cm. In testing light intensity, the application can display 3D objects on dark targets with contrast when the light intensity is at a minimum of 70 lux and a maximum of 1000 lux and on bright targets with contrast when the light intensity is at least 70 lux and a maximum of 1000 lux. Based on the results of the questionnaire, it was found that this application was very feasible with a value of 88%.

Keywords

**Hockey, Introduction to Sports Equipment, Augmented Reality, Markerless, User Defined Target**

## Data Analysis of Nu Philippines Faculty Research Engagement Using Web Data Scrapping Technique

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### Abstract

The study aims to evaluate and track the faculty members at the National University of the Philippines' productivity in research publications. This study creates a Google Scholar index of all the scholarly works produced at the National University of the Philippines and its affiliated campuses. Metadata files from various faculty research engagements in the Google Scholar Database were collected using web data scraping methods. The study's findings indicated that the number of publications increased significantly over the study period due to faculty members receiving research funding. Citations significantly increased due to the advantages of working with other researchers. With the rise in the number of publications produced by the faculty, the National University of the Philippines has experienced significant growth and stagnation. Based on the results of the study, the publications of the National University have experienced a significant increase due to the impact of research funding and the benefits that comes with it to the productivity of the faculty members. Based on the findings and conclusions of the study, the following recommendations are submitted. The NU should provide continuous capability training, workshop, national and international research publication budget allocation.

### Keywords

Data Analysis, Faculty Research Engagement, Web Data Scrapping Technique

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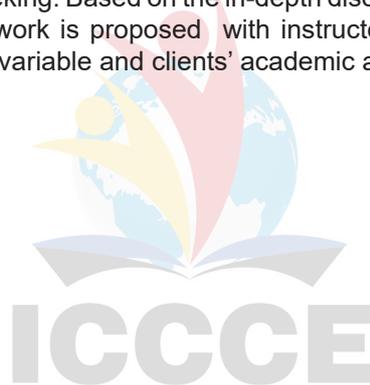
## A Conceptual Review on Leadership in Government Institution

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### Abstract:

An apt leadership style should be able to bring the best out of his organization, be it in public or private sectors. The ability of a leader to maneuver and achieve certain goals depends on the understanding of how effective leadership works. This paper discusses the different theories of leadership which are the trait theory, behaviour theory, contingency model, transaction theory of leadership, and transformational theory. This paper will also focus on one type of leadership model which is CIP Leadership Model proposed by Mumford (2006). With different theories and leadership styles, this paper aims to propose a conceptual framework of the effect of leadership styles on government servant specifically instructors at government institution. It is also imperative to discuss the organizational culture that mediates the clients at the institution such as support, peer connectedness, institution connectedness, affirming diversity, rule clarity and reporting and seeking. Based on the in-depth discussion of related concepts and frameworks, the effects of different leadership framework is proposed with instructor leadership as the independent variable, organizational culture as the moderating variable and clients' academic achievement as the dependent variable.



## Impact of Cybernetics – E-learning will play an important role in the globalization of education

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<sup>[3]</sup> Bangladesh University of Engineering and Technology

### Abstract

'Cyber' related to culture of information technology which deals with information in the digital world virtually. The Internet has influenced the 21st century to produce significant results for education virtually. Through the Internet, the world's various information and communication facilities are made available through interconnected networks using protocols. E-learning has become a very important tool in the education system today. So newly designed e-learning supports administration and technology. Cybernetics is a science of communication like social media posts, cartoons and newsletters etc. and automatic control systems where the basic principle is regulations through control and feedback between both machines and living things.

E-learning has become one of most concerned paths to acquire expected knowledge through internet. Average people performed learning moderately well on instruction by online. It is very important to design a fruit full e-learning platform for teaching, learning, and administration. This paper proposes a new method to design an e-learning platform by combining based on cybernetics mechanism.

Here the concepts in cybernetics with respect to positive thinking which are explaining thinking skills that we should develop and practice to achieve optimum results in the process of e-learning and evaluation by introducing a new branch of science through control and feedback. The expansion of cybernetics which became the new ideal of control and operation for the various social fields of communication. Through this paper the desirable practices of Cybernetics is introduced based on the queries of e-learning are explaining to achieve optimum results.

Keywords: Impact, cybernetics, e-learning, globalization, education.

## Tech-Mediated Teaching/Learning

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### Abstract

The burgeoning and mushrooming of ICT in the recent times has transformed the landscape of Education, thus creating a superabundance of ultra-modern and advanced openings for people across the globe to earn bread and butter. Increasing inroads have been made by computers for learning at all levels of education and hence the need for the spirit of educational reform in the curriculum has been felt. The buzzwords-active learning, learning by doing, self-directed learning, digital learning, blended learning, etc, have tremendously supported modern practices. Traditional modes of learning have replaced current practices of online learning and the maximum use of Tech-Mediated tools has dominated. Exposure to emerging technological aids have paved ample ways for academicians to discover multiple possibilities to fall back on technology. Subsequently learners too are attracted to the novel tools arisen out of technology and are looking to learn through a platform which creates ease and flexibility for them. Thus Tech-Mediated or E-learning becomes the mainstream activity to educational institutions to meet their strategic needs in imparting lessons to students. The Tech-Mediated learning suit the evolving needs of learners and teachers, providing opportunities for growth across the globe. Thus Tech-Mediated learning helps facilitators and learners address deeper issues and concerns related to education.



## Guiding principles for designing and content creation of AR apps for primary children

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### Abstract:

The research on augmented reality applications in education is still in an early stage, and there is a lack of research on the guiding principles for designing and creating content for augmented reality applications for Primary School Children Education. The purpose of this research is to identify the designing and content creation principles before developing any mobile application. Overlaying virtual content into the real world makes learning methods more interactive and immersive for students while learning any concepts using this technology. AR techniques make the learning process easy and interesting as compared to traditional methods. These methods lack focused learning and interactivity between the educational content. Primary school level for learning purposes of English grammar, numbers, science, geography, and AR Globe for knowing about different countries around the world. These applications can be played wherever and whenever a user wants without Internet connectivity, subject to the availability of a tablet or mobile device and the required target images. Our study investigates the appropriate designing and content principles before developing AR application. In existing literature, there are many designing principles like simplicity, ease of understanding, interactive design etc. are shown but there are no guidelines given which can be followed before designing and developing the content for AR applications.

### Keywords:

Design, development, AR, education, primary children, guidelines, principles, pedagogy, design, content.

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## Technopedagogical Devices in Blended Learning in developing countries

<sup>[1]</sup>Osbaldo Turpo-Gebera, <sup>[2]</sup>Juan Zarate-Yopez, <sup>[3]</sup>Milagros Gonzales-Miñán, <sup>[4]</sup>Rocío Maribel Díaz Zavala, <sup>[5]</sup>Luis Ernesto Cuadros Paz

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### Abstract

Blended Learning (BL) is a mixed teaching methodology that combines learning through the Internet (e-learning) with the experience of face-to-face classes. This blended learning scenario configures new alternatives for continuous learning. The modality resorts to the diversity of technopedagogical devices, propitiating areas of encounter and didactic interaction. The structural arrangement of BL makes it emergent, while at the same time it establishes it as a standardized educational modality, basically in higher education. To this end, this study seeks to recognize the importance and recurrent use of technopedagogical devices in BL. With this intention, 45 thesis reports on various experiences based on BL, defended in Peruvian universities, were analyzed. The results reveal the significant contribution of technopedagogical devices to socio-technological immersion, as well as to digital literacy with collaborative resources; adversely, they generate little involvement in tutorial accompaniment and a limited level of learning autonomy. Basically, although the technopedagogical devices do not show substantial innovations, they are progressively improving their applications. Specifically, in Peru, BL contributes to didactic mediations that, while not being at the forefront with respect to other societies, are progressively advancing in their use and knowledge.

### Index Terms

Blended Learning, Technopedagogical devices, Theses.



## Tipburn and Leaf Spot Detection on Strawberry Plants Using Convolutional Neural Network

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### Abstract:

Nowadays, the process of identifying plants is still manual and fraught with difficulties owing to human nature. Human nature contains a flaw that renders the desired outcome ineffectual. Another issue is that strawberry plant diseases such as tipburn and leaf spots can damage growth and crop quality and impact the agricultural economy. So the researchers created a Deep Learning model using the Convolutional Neural Network (CNN) VGG16 Algorithm and a dataset of 2897 photos to classify tipburn, leaf spot, and the healthy state of strawberry plant leaves. To minimize overfitting in classification training, the training dataset will be included. This is done so that the model can recognize the fundamental variance of the strawberry leaf picture object and achieve training and validation accuracy of 95.05% and 97.4%, respectively. Thus, the training loss value is 19.68%, whereas the validation loss value is just 7.54%. The finding accuracy was greater than 90% for both training and validation parameters. This research is expected to be valuable in giving information on the process of data augmentation and disease classification in strawberry plants.

### Keywords:

strawberry, convolutional neural network, tipburn, leaf spot, healthy, accuraccy

The logo for the International Conference on Computer, Cybernetics and Education (ICCCCE). It features a stylized flower or leaf design in the background with colors like blue, yellow, and red. Below the design, the acronym 'ICCCCE' is written in a large, bold, grey sans-serif font.

## Enhancing Cloud Data Security Using hybrid of DNA and Quantum Concepts

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### Abstract

Users can access data through the Internet using cloud computing, which is an emerging technology. Massive amounts of data can be stored in the cloud server. It is necessary to encrypt data for safe storage and secure transmission. In spite of the many advantages of cloud computing, there are many security concerns. Since the service provider is in charge of the data, there is the possibility of security breaches over the data. For providing security, a combination of symmetric and asymmetric encryption methods is being used. In this paper, the techniques for creating secure data transmission and storage in a cloud environment are discussed and provides a framework for Secured Data Storage and Retrieval (SecDSR) which consists of i) Classification, ii) Partitioning, and iii) dynamic encryption using DNA and quantum techniques.



# Virtual Assistant for People with Visual Impairments

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## Abstract

A virtual assistant is a professional who works remotely to assist the management and employees of a company. He develops his work through the Internet, either in his own home or from an office. It has a profile similar to that of a secretary, only adapted to online work. For me it is the most necessary resource for all entrepreneurs. It is the right arm of the founder or creator of the business. It is the first resource that usually appears in your project, and it is a resource that is born to help with many different tasks. (Azul, 2012) The advantages of virtual assistants is that it is not easy to find a really good virtual assistant, because the good ones are busy, and they already have jobs. So a virtual assistant allows you to be more productive by delegating the tasks that drain you the most and you don't like to focus on things that have to do with the maximum contribution of value to your project and its growth. In fact, it is a generalist profile in the that you may have to carry out a lot of chores. Develop an Expert System that guarantees the correct and complete use of the software for people with visual disabilities through a virtual assistant. The type of research is qualitative. People with visual disabilities from the city of Huánuco were taken into account, in total we virtually surveyed 13 people who suffer from this disability. As a result of the survey, we obtained positive information that our virtual assistant will be very helpful since most of these people are alone, bored and many of them do not have someone to accompany them on a day-to-day basis. Therefore, the majority of those surveyed agree that the virtual assistant would help them a lot in their daily lives. Design an intelligent system to provide support and emotional support through sounds to people with disabilities, where they will have the opportunity to participate in stories focused on educational and entertainment content. To carry out this project work, documents from different databases, publications and repositories have been consulted, among them the following can be mentioned: A virtual assistant has been implemented whose main purpose is to facilitate the search for information within the domain of the Faculty of Informatics of the Complutense University. The program is capable of analyzing the user's requests in natural language to try to offer answers that satisfy their needs. To do this, it uses a sentence analyzer, capable of identifying the most relevant elements and if any of these belong to the semantic network of the web, being able to give a coherent answer and show the origin of the information. (Cubero, 2015) "Development of a Virtual Assistant (Chatbot) for the Automation of Customer Service". It proposes the development of a virtual assistant to improve, automate processes and thus be able to satisfy the clients of a company. Another strong point of this report is that it mentions that the implementation of a chatbot will reduce the workload of employees dedicated to customer service. (Martinez, 2019) "Integration of a CHATBOT as a skill of a social robot with a dialogue manager ". In addition, the creation and development of a local CHATBOT that achieves similar qualities to the evaluated CHATBOTs is proposed, it will be the basis for further improvements and research work in the area of Language Processing. As a tool that will help to relate the CHATBOT to the Social Robot, a package is designed in the ROS Robotic Operating System, a system that works under the motto "divide and conquer" with which we can work with already existing modules such as automatic speech recognition and synthesis. of speech, which will allow us to interact verbally with the Social Robot. (Cobos, 2013) The expected result is that the system has a large amount of stored knowledge and that it meets the objectives so that it is very useful for people with visual disabilities, also that it serves as a reference and more similar systems are created.

## Keyword:

Virtual Assistant, artificial intelligence, communication.

## Conceptual bases of digital teaching competence. A systematic review

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### Abstract

The growing technological advancements brought about by the digitization of the 21st century and increased by health emergency has contributed to the use of digital tools in the educational context. In this premise, the study's objective was to carry out a bibliographic review on teaching digital competence and the bases that can be taken for the development of it. The research is descriptive; a systematic review of reliable databases and indexed journals was carried out, excluding duplicate documents and those that did not present a significant contribution or a reliable source. The study allowed us to conclude that digital teaching competence is related to the correct use of ICT in the teaching-learning process, and for its training, the proposed models in terms of digitization can be adapted.

### Key words:

Autonomous learning, skills, strategies, digital tools.



## Educational Model for the improvement of Sustainable Development

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### Abstract

In the world, education allows care for the environment. UNESCO (2020), considers its importance for its preservation, adopting social, economic and environmental measures.

UNEP has created the GEO program, which prepares environmental reports based on a specific methodology to achieve changes in the environmental sphere, <http://www.pnuma.org/deat1/procesogeo.html> (2005).

In 2015, the UN approved the 2030 Agenda with 17 SDGs, in favor of man, the earth and his prosperity, achieving peace and freedom, favoring the poor, their rights and gender equality, to transform the planet.



## Critical Success Factor for Project Managers to Manage Stakeholder Engagement and their Prospect

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### Abstract:

A stakeholder is most categorized as the most influential individual, group, or organization that is considered a direct impact by the project's outcome. It's clearly understood that the project manager's job is to manage and shape these relationships to create as much value as possible for stakeholders and to manage the distribution of that value [1]. Stakeholder communication is a top priority and considering that their interests conflict, the project managers must find a way to re-think problems for effective decision making. This study discovered that IT Projects are still failing even though we have many theories and approaches that can be adopted. This is because the lack of communication with stakeholders can impact the project's success. Seven IT project managers in Malaysia have participated in this study. Thematic analysis has been adopted to determine the critical success factor in project stakeholder management. This study yields an exciting finding that IT project manager competency influences their communication with stakeholders. Subsequently, an effective communication strategy with a new risk assessment that emerged from this study can benefit decision-making.



## Inclusive Assistive Technology Learning Approaches for Enhanced Learning Among Students with Hearing Loss: Research Implication

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### Abstract

The study investigated the inclusive assistive technology learning approaches for enhanced learning among students with hearing loss: Research Implication. Three research questions and hypotheses were raised. Literature was reviewed according to the sub-variables of the study. The population of the study comprised all the students with hearing impairment in the Department of Special Education, University of Calabar, Cross River State numbering seventy-five (75) in all. Census sampling was used in selecting the sample which also represented 100% of the population of the study. The instrument used for data collection was developed by the researchers, named: "Inclusive Assistive Technology Learning Approaches Questionnaire (IATLAQ)". The instrument was validated by experts in the fields of study. The data were statistically analyzed using simple mean, standard deviation, Pearson Product Moment Correlation, and population t-test. The result showed that the types of assistive technology used by the students were significantly low. There was also a significant relationship between assistive technologies (hearing aids, Bluetooth, and cochlear implants) in motivating the academic achievement of students with hearing impairment at the University of Calabar. The result further revealed that challenges facing students with hearing loss without using assistive technology include poor vocabulary in school, difficulty in understanding classroom instructions, difficulty of expression in a class by students with hearing loss, poor academic performance, and poor participation and engagement with their hearing counterparts in school activities among others. Based on the findings, it was therefore, recommended among others that capable individual lecturers, university authorities, and governments should partner with key stakeholders in Education in order to make assistive technology devices readily available and encourage students to have access to such devices in the Special Education Departments in Universities in Cross River State, Nigeria.

### Keywords:

Inclusive, Assistive Technology, Learning Approaches, and Hearing Loss.

# Data Management in Research Practices in Higher Educational Institutions: Issues in the Research Sphere.

<sup>[1]</sup>**Idika, Delight Omoji;** <sup>[2]</sup>**Eyong, Emmanuel Ikpi;** <sup>[3]</sup>**Okeke, Stella Uchechukwu;** <sup>[4]</sup>**Egbai, Julius Michael;** <sup>[5]</sup>**Otu, Benard Diwa;** <sup>[6]</sup>**Ojini, Richard Ayuh;** <sup>[7]</sup>**Gabriel, Femi Goodwill;** <sup>[8]</sup>**Shogbesan, Yusuf Olayinka;** <sup>[9]</sup>**Onah, Peter Ogbaji;** <sup>[10]</sup>**Inah, Lovina Idoko.**

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## Abstract

In the research sphere, data management as an aspect of research management has assumed tremendous significance, particularly with an expansion in the educational research enterprise. Data management represented by the acronym RDM describes the management and organization, storage, preservation, and sharing of data collected and used in a research undertaking. To this end, the study focused on data management in research practices in higher educational institutions: issues in the research sphere. Three research questions and hypotheses were formulated to guide the study, and the design adopted was ex-post facto with an accessible population of 790 data analysts in selected higher educational institutions in Nigeria. The study adopted the multistage sampling technique with a sample size of 385 (50%). The instrument used for data collection was a researchers' validated instrument titled "Data Collection Scale for Researchers (DCSR)" which was validated using the inter-rater reliability method by experts in the field of Education and the coefficient of internal consistency ranged from 0.74 to 0.79. The data were analyzed using descriptive statistics (mean, standard deviation, and bar charts). The findings of the study revealed that most data analyzed were cooked (not real) irrespective of the fact that the results were quite outstanding. Also, most data were analyzed by quacks who do not have the prerequisite skills in research practices. The study, therefore, recommended the need for compulsory participation in workshops, seminars, and conferences by all lecturers, students, and other education researchers in the academic environment to produce a worthwhile output that will inform policy decisions. Conclusively, the study proposed the need for data management centers to be established by institutions as this will help to checkmate and promote quality data management by research scholars.

## Keywords

Data Management, Research Practices, Issues & Research Sphere

## Modelling of cannabis extraction in supercritical fluid extraction CO<sub>2</sub> technique

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### Abstract

This paper focuses on modelling of cannabis extraction in supercritical fluid extraction (SFE) CO<sub>2</sub> process. First, two mathematical models, Sovova and Reverchon, are described. COMSOL program was used to solve numerical solution of both models. Then, numerical modelling verification are shown. The extraction experiment was set up. Cannabis Savita L. was extracted in SFE CO<sub>2</sub> process. Extraction pressure and temperature conditions were 200 bars and 50oC, respectively. Both modellings were customized for Cannabis Savita L. To improve solution accuracy, some coefficients were fitted from experimental data. RMS was used to minimize error. Experimental results and the proposed numerical solutions were in a good agreement.



# **Analysis on Gas Disaster Evaluation Method of Coal Mine**

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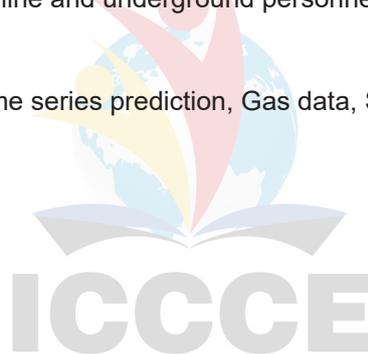
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## **Abstract**

Gas disasters are the main threat to coal production safety, to achieve stable and reliable security situation prediction is very important. Effective analysis of coal mine production safety status is of great significance to coal mine safety production. This paper uses the gas monitoring data of the working face of Shendong mining area as the sample, by building a prediction model and using a mathematical model method to determine the safety level of the coal mine area. The prediction of the gas emission law of coal mining face is realized to predict the gas data trend, use the data to measure and use the root mean square error and average absolute error indicators to measure the accuracy of the gas emission prediction results, verify that the prediction accuracy rate can reach 98.21%. The establishment of a coal mine gas disaster prediction model is of great significance for the avoidance of coal mine risks. Predicting possible coal mine gas disasters in advance can better ensure the safety of coal mine operations and reduce the property and life and property losses of mine and underground personnel minimum.

## **Index Terms**

Coal mine Gas disaster, Data Fusion, Time series prediction, Gas data, Situation assessment



## Exploring The Virtual Simulation Teaching Mode of Programming Course

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### Abstract

With the outbreak of COVID-19 in early 2020, conventional teaching methods have been altered, and the focus has shifted to network-based teaching. An essential component of incorporating technology into education is teaching experiments using virtual simulations. We propose a teaching method based on applying virtual simulation technology to programming experimental courses in order to address the problems of decoupling theory and practice, poor practical teaching effect, and inadequate experimental resources. This study's research approach was design thinking. In this article, we discuss how to construct a teaching platform for a virtual simulation experiment that consists of a server and an experiment terminal and is based on the campus network. The administrative layer, the service layer, the application layer, and the display layer are the five tiers of a platform system design. An experimental teaching resource sharing mode is introduced, and the experimental results through the use of platform applications are demonstrated. The teaching practice has proved that the students' professional interest and innovation consciousness have been significantly improved after the virtual simulation experiment teaching, and the transformation from "teaching experiment" to "experimental teaching" has been realized.

### Index Terms

Driving Virtual Simulation Teaching Mode; Programming Course; experiment teaching.



## 5G Vehicular Network Resource Management For Improving Radio Access Using CNN, LSTM, and DNN

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### Abstract

The newly allocated spectrum of vehicular networks with 5G to enable new air interfaces as well as a few new access modes. In this research, a novel vehicular network that incorporates SDN, 5G, Wi-Fi, global mobile communications, high-speed packet access, and others is presented. Additionally, cells have been suggested as a flexible way to cover vehicles and prevent a lot of handoffs between them and roadside units. The transmission latency and throughput are examined and contrasted based on the 5G - SDN with ML techniques that have been developed. According to simulation studies, CNN, LSTM, and DNN have accuracy and loss when compared to resource management and providing QoS. Vehicle communications, also known as vehicle-to-everything (v2x) communications, would allow cars to interact in real time with their surroundings to improve traffic efficiency, road safety, and energy efficiency. Long short-term memory (LSTM), convolutional neural network (CNN), and deep neural network (DNN) models have been used in this project's machine learning algorithms for outcome prediction and comparison to find the most effective approach. Here, it is clear that LSTM displays the most accurate average at 99.36 per cent, whereas CNN and DNN have 95 and 92.58 per cent accuracy, respectively.

### Index Terms

Machine learning, vehicular networks, SDN, LSTM, CNN, DNN, resource management, security, vehicle to everything -v2x.



## The Relationship between Self-Concept and Peer Group Support with Bullying Behavior in Elementary School

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### Abstract

Bullying behavior is the aggressive and negative behavior of a person or group of people repeatedly abusing an imbalance of power with the aim of hurting the victim mentally or physically. Data from the Indonesian Child Protection Commission (KPAI) in 2020 showed that 50 percent of bullying behavior occurred in elementary schools. This study aims to determine the relationship between self-concept and Peer Group Support with the ability of social interaction of school-age children. The method used in this research is quantitative research with descriptive correlation design using a cross sectional approach with a questionnaire as the instrument. Sampling technique with total sampling. The population is students in grades 2-6, Semarang City Excellence Program with 90 students as respondents. The data obtained were analyzed by statistical tests using the Spearman rank test. From the correlation analysis of the Spearman Rank test, it was found that there was a significant relationship between self-concept and Peer group support with Bullying Behavior of students, Semarang City Excellence Program with p Value = 0.000 (less than 0.05).

### Keywords

Bullying Behavior, Self-Concept, Peer Group Support, School-Age Children.

## Distance Learning Management among UPI Students

**Linda Setiawati**

Library and Information Science

### Abstract

Covid-19 kills and paralyzes the activities of the community. Covid has also changed the education system worldwide, leading to the closure of schools from elementary school to university. Therefore, all actions, such as teaching and learning activities at schools and universities, must be carried out at home or online to prevent the spread. This study aims to determine the factors constraining distance learning for postgraduate students at the Universitas Pendidikan Indonesia. The research subjects were doctoral students of the Educational Technology Program years 16 and 17 who live in the Garut, Tasik, and Bandung areas. The data collection technique used google forms and observations in online classes through Zoom Meetings. Although considered reasonably practical, distance learning activities for some students who live in relatively remote areas were considered an obstacle due to several factors. These factors were the means of gadgets, internet connection, and smooth communication.

### Index Terms

Covid-19, Distance Learning, Educational Management.



## Instance-Level Image Retrieval Using Adversarial Training

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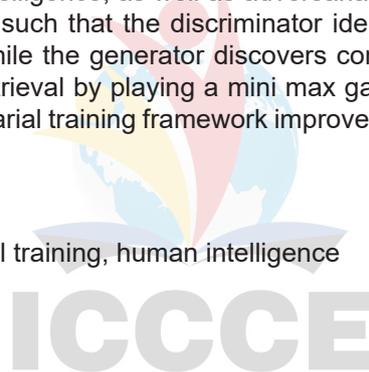
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### Abstract

Huge numbers of pictures being taken in people's daily experience as a result of the Internet of Things (IoT) widespread use of visual sensors in current history, which presents difficulties for deep residual image retrieval frameworks. The significant number of training data set information is necessary more by most of such algorithms. The reason that machines spend lesser consideration to the intriguing areas that humans often focus on when browsing for pictures is much more indication that they would still lack human intellect. As a result, this study proposes a novel unsupervised framework for deep-learning based picture retrieval that incorporates human cognition and is centred on the instance item in the image. A framework of this type is known as conflicting instance-level image retrieval (AILIR). This strategy incorporates both artificial and human intelligence, as well as adversarial training and a learning algorithm. Both the classifier and the producer are updated such that the discriminator identifies mismatched photos and delivers an adversarial incentive to the generator while the generator discovers comparable images. The adversarial rewards technique improves picture sequence retrieval by playing a mini max game until the discriminator can't identify the sequence. Experiments show the adversarial training framework improves instance retrieval and outperforms current techniques.

### Keywords

instance-level image retrieval, adversarial training, human intelligence



ICCCCE

## Study of RM Techniques and Performance Evaluation Parameters for Resource Management in Cloud Computing Environment

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### Abstract

The cohesive development of Cloud computing attracts organizations and individuals to change their IT infrastructures and environments. According to the varying demand and its development of using Cloud computing, Cloud providers continuously use the upgraded resources of Cloud infrastructure to fit the varying demands. Cloud computing has developed as the main model for delivering and hosting computing resources as services over the Internet. It renders a delivery model for computing resources at platform, infrastructure and software levels. So, Resource Management techniques are proposed in cloud for workload demanding and computing applications that are having different optimization parameters. This survey represents a broad study of Resource Management techniques and refined their huge classification based on the several features. It explores the platforms and evaluation parameters which are utilize to access the Research Management techniques.

### Keywords

p Cloud Computing, Resource Management, RM Techniques, Performance Evaluation Parameters.



## Investigating the Effect of Growth Mindset Pedagogy on Learner's Performance in Science Discipline

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### Abstract

Selecting the right pedagogics is the key step for the teacher to influence the student's academic achievement. The purpose of the study was to investigate the effectiveness of growth mindset pedagogy on the academic achievement of science students. The "true experimental research with pre-test and post-test control group design was used. A total of 70 eighth-grade students from Kendriya Vidyalaya Ajmer, Rajasthan were involved in the study. The selection of the school had been done through a purposive sampling method". The students were randomly assigned into "experimental" and "control groups" with 35 students in each group. In order to equivalence both, group the intelligence test was taken into account to form the group. The control group students were taught with the traditional teaching method and the experimental group students were taught with growth mindset pedagogy. Four modules with 11 sessions were prepared and 12 weeks were devoted to giving treatment to the students. A self-constructed academic achievement test in science consisting of 20 items was administered as a pre-test and post-test to students in the experimental and control groups. For the statistical analysis t-test was used. The result of the study revealed that the students who were in the experimental group, instructed by the growth mindset pedagogy achieved higher scores than those who were in the control group. Findings showed that the adoption of the growth mindset pedagogy in science education significantly enhanced the academic achievement of students. Therefore, it is recommended that science teachers should employ a growth mindset pedagogy in their teaching to enhance students' active participation, which carries better-quality education.

### Keywords

Growth mindset pedagogy; Academic achievement in science; Fixed Mindset.

## Nurturing Scientific Creativity of Science Learners through Creative Problem-Solving Instructional Model (CPSIM)

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### Abstract

Science teaching demands opportunities to explore, construct and verify knowledge by the science learners. An ideal science syllabus should have provisions to inculcate forwardness, self-confidence, scientific inquiry and out-of-the-box thinking skills for learners' development. Hence there remains a constant need to develop and assess innovative and constructive ways for teaching science to nurture scientific creativity among science learners. The study aimed to develop and assess innovative instructional strategies of fostering scientific creativity among science learners through Creative Problem-Solving Instructional Model (CPSIM). The CPSIM of scientific creativity comprises of six steps, namely; (1) Objective finding, (2) Fact finding, (3) Problem finding, (4) Idea finding, (5) Solution finding and (6) Acceptance finding inspired by problem solving process given by Osborn. The CPSIM has been administered on the science learners of eighth standard by making control and experimental groups through randomization. The pre and posttest were administered to both the groups before and after the treatment. The noteworthy conclusion of the experimental study has been that Creative Problem Solving Instructional modules of CPSIM have effectively improved the performance of the experimental group learners. This has been established by the higher gain scores of experimental group than control group. The study concludes that the Creative Problem-Solving Instructional Model is effective for fostering scientific creativity among science learners through its step-by-step implementation while teaching specific science topics.

### Keywords:

Scientific creativity, Problem-Solving Instructional Model (CPSIM), Science learners

## Android Malware Detection and Familial Classification using Dynamic Features for Imbalanced Dataset

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### Abstract

Mobile phones are one of the widely used communication platforms. It is also a much-preferred device to carry out various diverse activities in different sectors such as gaming, education, finance, stock market, etc. Android operating system is one the most popularly used mobile operating system which requires mobile applications to perform any activity. Due to its open-source nature and large consumer market share, many illegitimate operations are targeted specifically through malware mobile applications. The objective of this paper is to obtain resilient features from Android APK files, to analyze the effectiveness of various machine learning classifiers, to perform hyperparameter tuning to find the appropriate parameters of the classifiers that improve the evaluation metrics, and to handle the imbalance issue in the dataset using various imbalance approaches.

### Index Terms

android malware detection, class imbalance, dynamic features, machine learning classifiers



## Relationship Marketing Strategy for Customer Loyalty. Case: MIDAS Chiclayo

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### Abstract:

The present investigation entitled “Relationship Marketing Strategy for Customer Loyalty at Midas Solutions Center Chiclayo”, had the general objective of applying Relationship Marketing strategies for customer loyalty at Midas Solutions Center Chiclayo. For this, a descriptive investigation was carried out with a pre-experimental design where there is only one study sample, since the dependent variable was analyzed as a problem, describing it and generating an attempt to improve from the independent variable, based on this. The design was used as the primary data collection technique, the survey with its respective instrument, to which a Likert scale questionnaire was applied, addressed to a sample of 59 Midas Solutions Center clients, which after their respective analysis could be determined that customer loyalty is determined as inadequate by 57%, so it was proposed to apply strategies based on relationship marketing trying to generate contact with the customer through the development of the stages, which allows it to develop as it is established in each activity. Finally, it is concluded that the relational marketing strategy with customer loyalty is high, since the correlation coefficient yielded 59.3%. This indicator shows that when you improve relationship marketing strategies, it will have a direct impact on customer loyalty.

### Keyword:

Relationship Marketing Strategy, Customer loyalty.



