Schedule Parallel Session ICAE 2022

Room Zoom	Moderator	LO	Room Techno	Time	Presenter			Title	Abstract
					Name	Affiliation	Email		
1	Nur Sakinah Asaad,S.T.,M.T	Nana Nuraliza	Nagoya	10.15 - 10.30	Mohamad Johan Arifin	Politeknik Elektronika Negeri Surabaya, Indonesia	mohamadjohan@ce.student.pens.ac.id	Ultrasound Portable Integration for Segmentation Heart Disease in Health Care Kiosk	One of the problems in health is detecting heart beat. Heart disease is number one death factor according to the data gathered by WHO. Patient of heart disease can experience sudden pain that need fast handling so that nothing fatal happen. The problem being highlighted in this research is about heart disease checkup service, where a patient have to go to a special ultrasound room to check their heart, it's hard to do for a critical heart disease patient. Ultrasound portable could be the solution for this problem, because this device is equipped with other good feature to help doctor diagnose a patient. The first step is ultrasound portable will be used to take heart video data. Ultrasound portable is a portable device so it sends the data through wireless communication, so the smartphone used as receiver have to be connected in 1 same wifi connection as the ultrasound portable. And then the video made in smartphone will be sent to PC using usb communication. After the data received there will be preprocessing and segmentation process. In the preprocessing there is 2 step that is median filtering and high boost filtering, and from these preprocessing step it will produce an image that's free from noise and enhanced image. From preprocessing's output it will be processed with segmentation process, in this segmentation there are 3 steps which are region filtering, collinear and triangle method. The output of segmentation process can obtain contour line from heart cavity with an accuracy of 70%, which will be used to track the heart. With this research it will ease the user to observe the condition of the heart without having to go to specific place.
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					Taufiq Hidayat	Faculty of Medicine, Airlangga University, Indonesia	taufiq-h@fk.unair.ac.id		
					Tita Karlita	Electronic Engineering Polytechnic Institute of Surabaya, Indonesia	tita@pens.ac.id		
				10.30 - 10.45	Riwinoto Riwinoto	Batam State Polytechnic, Indonesia	riwi@polibatam.ac.id	Analysis Optimization of Game "X" Performance on the Android Platform	The preliminary research entitled "Game Prototype Performance Analysis on The Android Platform" stated that the game "X" (The name was disguised for development purposes), was not optimized very well. The game needs to be researched further to improve the process of optimization and to find the result based on the conclusion from the preliminary research, which states that the frame from the result of the analysis should reach 60 fps. In this research, there will be many different types of prototype results, with each of them having different types of optimization. There are the scripting process, garbage collection, and rendering. This research focuses on performance which improves the speed of the game and from the result of the research, there will be 4 revisions for having an optimized state of performance that can be used for further development.
					William Tan	Politeknik Negeri Batam, Indonesia	ivietwill@gmail.com		
				10.45 - 11.00	Kero Baganet	Polibatam, Indonesia	kerobaganet@gmail.com	User Experience Analysis on Application Simulation "HEALTHY LIFESTYLE AT HOME" Based on Virtual Reality	Health at home is very important to implement some families do not really apply health or clean living rules at home. At this time, there are problems that can be explained with technology, one of which is by providing content with a realistic visual concept which is also called Virtual Reality (VR). VR technology is also used in several fields such as gaming, health simulation, simulation in the field of education and others. ¬Therefore, the author decided to analyze an application that aims to educate virtual reality-based on healthy living rules at home. The author wants to know the level of user experience of healthy living applications at home. For the method of this user experience itself, the author decides to use the TCSD (Task Centered System Design) method. TCSD is a method that is included in Human Computer Interaction (HCI). This method has four stages, namely Identification, User-Centered Requirements Analysis, Design through Scenario and System Evaluation. And at the final stage in the TCSD method is the walktrough evaluate stage which will be carried out to evaluate user usability. The evaluation is carried out with one of the usability methods, namely heuristic evaluation. Based on the results of research analysis and testing carried out on healthy living simulation applications at home as applications that educate about the importance of healthy living at home, with the heuristic calculation method, an average value of 0.81 has been obtained with a rating of "Cosmetic" which means there are problems but these problems are not too important to fix. And it can be concluded that the healthy living simulation application at home is acceptable with low usability problems.
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				11.00 - 11.15	Annisa Florentia	Batam State Polytechnic, Indonesia	florentiaannisa@gmail.com	Usability Analysis: Virtual Reality-Based Lathe Machine Operation Simulation Application	Virtual Reality (VR) can be used in any field, not least in practical simulations and training. The lathe operation simulation application is one example of the use of VR technology in the field of manufacturing mechanical engineering. In this study using the Post-Study System Usability Questionnaire method to analyse usability testing on the lathe VR simulation application. Research conducted on students of Manufacturing Mechanical and Welding Engineering, Batam State Polytechnic will produce data related to the level of system quality in the application. The results of the usability evaluation get a value above the average with each component of System Usefulness (2.2), Information Quality (2.2), Interface Quality (2.4) and Overall (2.23) getting a good category.
					Riwinoto Riwinoto	Batam State Polytechnic, Indonesia	riwi@polibatam.ac.id		
								Break	
				13.15 - 13.30	Tania Milda Grasella	Batam State Polytechnic, Indonesia	mildatania@gmail.com	User Experience Evaluation of Virtual Reality-Based for LAN Cable Crimping Simulation Application	Virtual reality is currently growing rapidly, marked by the emergence of various products in various sectors, especially in the educational sector. Batam State Polytechnic has developed virtual reality-based learning products, one of the products is a simulation application of LAN cable crimping. This simulation is made in such a way as to represent the working procedure of LAN cable crimping practicum module. The simulation application of "LAN cable crimping" has to be measured to determine its usability level. This study was conducted using the system usability scale to find out whether the usability rate has met the standard or not by testing the simulation product and filling out questionnaires. The questionnaire contains 10 questions following the system usability scale instrument. This study resulted in several conclusions: (1) Based on the system usability scale (SUS) score, the adjective rating of the "LAN crimping cable" was "good" (B) with a final score of 74. (2) The simulation was acceptable and respondents also commented that the simulation helped in understanding the LAN cable crimping process, although they had never done it directly.
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					Lin Prasetyani	Politeknik Manufaktur ASTRA, Indonesia	lin.prasetyani@polman.astra.ac.id		An automotive company that manufactures pistons integrates a DENSO-type robot into an existing control system. The visual process of controlling and checking the product quality control has the purpose gets a good product. Previously, the process was carried out conventionally through the eyes of Manpower. The visual inspection carries out by

				13.30 - 13.45	Mada Jimmy Arifianto	Politeknik Manufaktur ASTRA, Indonesia	mada.jimmy@polman.astra.ac.id	Denso RC7M Robot Integration with PLC Based on Device-Net Communication in a Visual Line of Automotive Industry	utilizing the robots they have. The desired goal is to reduce cycle time on the Visual line. Therefore, the author and the engineering maintenance team decided to replace the system on the visual line using a robot through integration with the existing HMI control system. The integration of this robot supports an auto-visual inspection scheme with the help of the Device-Net control system communication. After doing the trial process, the result is that the cycle time drops to +- 36%. This research paper applies to an automotive company in which cycle time is something critical point. The decreasing of cycle time becomes something urgent in a production process
2	**Fitriyanti Nakul, S.Pd.,M.Si**	**Alfan Meola**	**Sri jodoh**	10.15 - 10.30	Asy Syifaur Roisah Rufaida	Universitas Gadjah Mada, Indonesia	asysyifaurroisahrufaida@mail.ugm.ac.id	Lexicon-Based Sentiment Analysis Using Inset Dictionary: A Systematic Literature Review	A lexicon-based sentiment analysis method necessitates using a lexicon dictionary during the analysis process. The Inset (Indonesia Sentiment) lexicon dictionary is one of the Indonesian language's most extensively used lexicon dictionaries. This Systematic Literature Review aims to determine the latest trend of lexicon-based sentiment analysis using Inset dictionaries. The findings of this study provide an answer to the following research question: RQ1: What are the most popular domains discussed in sentiment analysis studies using the Inset dictionary? RQ2: What data sources are used in sentiment analysis studies using the Inset dictionary? RQ3: What are the most common pre-processing techniques used in sentiment analysis studies using the Inset dictionary? The literature review resulted in selecting seventeen papers for a detailed study. The findings show that in the last five years, most sentiment analysis research using Inset focused on the health domain (RQ1) and then responded to the following research questions (RQ2 and RQ3). The study also contained some additional observations from completed research.
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					Noor Akhmad Setiawan	Universitas Gadjah Mada, Indonesia	noorwewe@ugm.ac.id		
				10.30 - 10.45	Hanif Naufal Arif Sunarko	Gadjah Mada University, Indonesia	hanif.n.a@mail.ugm.ac.id	Comparative Analysis of Masked and Unmasked for Face Recognition Using VGG Face and MTCNN	Face recognition is a system that is widely used in various fields such as security, attendance system, and other fields. Currently Covid-19 is still a major problem around the world and almost everyone is protecting themselves with masks. This is a problem for the face recognition system. This happen because most of the faces are covered by masks so that face recognition system will be difficult to recognize the face. This paper will do a comparison between a dataset without a mask and a mixed dataset. This study was conducted to find out how the effect of the dataset used on the accuracy of face recognition system either with masks or without masks and to find out how well the performance of face recognition with different dataset. VGG Face and MTCNN are used to detect and recognize faces based on landmarks. This study compares the level of accuracy, level of precision and level of sensitivity. The result shows that using a mixed dataset containing masked and unmasked faces will increase the accuracy rate from 86.7% to 93.3%. For the level of precision increased from 87.7% to 93.5%. And the Sensitivity level increased from 86.7% to 93.3%.
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					Rudy Hartanto	Gadjah Mada University & Electrical Engineering and Information	rudy@ugm.ac.id		
				10.45 - 11.00	Oktavianto Gustin	Politeknik Negeri Batam, Indonesia	oktavianto@polibatam.ac.id	WebGIS Distribution of Boarding House Locations (Case Study: Around Politeknik Negeri Batam Campus)	Politeknik Negeri Batam is the only public university in Batam City, Riau Islands Province. Many students come from within the city and outside the city to continue their education in college. So it requires a temporary place while studying. Searching in various print media, seeing the words "Accept Boarding" affixed to the front of the boarding house owner's house, or asking people who know. This is a challenge for students to find temporary housing around campus. By utilizing webGIS technology the purpose of this research is to produce a webGIS for the distribution of boarding house locations that can be accessed via the internet. WebGIS can display information that is equipped with the location of the boarding house and the route of the trip. Making webGIS using data collection methods, data processing, results, and analysis with Liket's method by utilizing Leaflet JavaScript Library technology. Application testing is done by paying attention to funcfunctionalting and usability testing. In testing the functionality, it can be said that webGIS was successful in bye expected results. While the usability test from several 40 respondents obtained the results of usability testers with an average answer score of MI < X MI + 1.5 SDI, namely 25.5 < 30.7 32.7495, which means that the average answer score is in the "decent" category. it can be said that the webGIS application for the distribution of the location of this boarding house is included in the "appropriate" category.
					Karisma Pratama Ramadhan	Politeknik Negeri Batam, Indonesia	karismapratamaramadhan10@gmail.com		
				11.00 - 11.15	Oktavianto Gustin	Politeknik Negeri Batam, Indonesia	oktavianto@polibatam.ac.id	WebGIS Mapping the Distribution of Batam Island Main Bus Stops	People in the city of Batam as well as local and foreign tourists who want to travel, especially in the city of Batam, find it difficult to know the location, position and location of the bus stop. Although so far there are google maps that provide information on the availability of road facilities, but for some places, google maps has not provided information about bus stops. Another way is needed to provide information on the location of bus stops in the city of Batam, not only through information obtained from city bus officers. People do not know about the existence of the bus stops on Batam Island, because of the lack of spatial information about the location of the bus stops on Batam Island. A media is needed to provide information and the location of the bus stops on Batam Island. The initial step taken by the researcher was collecting data in the form of data information such as the coordinates of the bus stop. Then carry out a site survey by taking coordinates or points from the location of each Batam Island bus stop, and proceed with data processing until the goal of this research is achieved in the form of WebGIS distribution of Batam Island shelters.
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				Break					
				13.15 - 13.30	Oktavianto Gustin	Politeknik Negeri Batam, Indonesia	oktavianto@polibatam.ac.id	Mapping Land Field in Kampung Tua Nongsa Using NRTK Method Based on PTSL Activites	Measurement and mapping of land parcels is a series of activities in carrying out land registration, this activity can be carried out by various methods, such as: photogrammetric methods, remote sensing, terrestrial and other methods.Complete Systematic Land Registration or commonly called PTSL is a program from the government in the land sector in the form of land dispute resolution or land certificate activities simultaneously in one work area and carried out by collecting data simultaneously. At the same time, data collection can reduce the risk of land and property rights disputes, both within the community and with the government.By measuring land registration using the RTK method with INA-CORS BIG as the base, the results of this measurement produce a Land Plane Map (PBT), where the target of the measurement is 1,500 parcels of land. PTSL 2021 Kampung Tua Nongsa with a measurable area of 1,591 fields.
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				13.30 - 13.45	Oktavianto Gustin	Politeknik Negeri Batam, Indonesia	oktavianto@polibatam.ac.id	Mapping of Changes in the Marine Physical Properties of the Batam Island	Batam Island is one of the islands in the Riau Archipelago which is rich in natural resources, especially mangroves and coral reefs, these two aspects are very influential on changes in the ecosystem found in the sea, but there are several locations of mangroves and coral reefs that have been damaged by human and natural causes, namely, Some of the physical properties of seawater include sea surface temperature, salinity, and total suspended sediment. Therefore, a study was conducted that aims to determine changes in the area of mangroves and coral reefs on Batam Island by utilizing Landsat 8 image recording in 2017 and 2021. So that changes in mangroves, coral reefs, and physical properties of sea water can be known from the results of this study.
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3	Budiana, S.Si., M.Si	Alif Fikri. R	Tiban	10.15 - 10.30	Oktavianto Gustin	Politeknik Negeri Batam, Indonesia	oktavianto@polibatam.ac.id	Mapping the Suitability of Land Use to the Regional Spatial Plans in Batam City	Land use is a tangible manifestation of the impact of human activities on the earth's surface. If the population increases and activity increases, a region's land use patterns may change. Batam city is one of the cities that attract immigrants and has the potential for rapid growth and development. In the arrangement of land use that is not appropriate, it will urge natural space to change function, so that a regional spatial plan is needed that is regulated by laws and regulations related to the Regional Spatial Plan / Spatial Pattern obtained from BP Batam. This study aims to map land use and determine the suitability of land use that occurs in Batam City in 2021 based on interpretation of Landsat-8 satellite imagery in 2021 by digitization on-screen and overlay. The method used in this study used the Multispectral Maximum Likelihood classification method. The Results of this study provide information in the form of land cover maps, land use maps with classifications totaling 12 classes in accordance with the class III classification set by Malingreau consisting of airports, lakes, forests, industries, ponds, open land, sea, mangroves, ports, plantations, settlements and land use suitability maps with appropriate area of 76608.97 Ha and area not in accordance with 25560.74 Ha to spatial plan Batam City Area.
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					Dewi Nur Indah Sari	Politeknik Negeri Banjarmasin, Indonesia	dewi.sari@poliban.ac.id		
				10.30 - 10.45	Ahmadi Irmansyah Lubis	Politeknik Negeri Batam, Indonesia	ahmadi@polibatam.ac.id	Classification of Alzheimer Disease from MRI Image Using Combination Naïve Bayes and Invariant Moment	This study examines the classification of Alzheimer's disease. Alzheimer's is a memory disorder in an older person caused by degeneration of the central nervous system, which results in memory impairment and can cause death. Early detection of Alzheimer's can also be done based on image processing using magnetic resonance imaging (MRI) type images. Therefore, in this research, we use a feature extraction process to extract the characteristics of Alzheimer's disease that appear on MRI images using Moment Invariance and use the Naïve Bayes classification method to classify classes from images based on normal images, very mild disturbances, mild disturbances, and disturbances. Medium from brain images in the classification of Alzheimer's disease. The classification stage consists of several stages such as image acquisition, preprocessing (grayscaling), segmentation (canny edge detection, threshold), feature extraction using Invariant Moment, and image classification using Naïve Bayes. Based on the testing of the method proposed in this research, the results obtained for the accuracy of classifying Alzheimer's disease in this study are 94%.
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				10.45 - 11.00	Shibajee Nath	Nottingham University Malaysia, Malaysia	efysn1@nottingham.edu.my	Voltage Oriented Control for Electric Vehicle Regenerative Power Regulation	Electric Vehicles have been designed to address the increased carbon emissions made by fossil fuel-powered vehicles. On the other hand, electric vehicles have a longer battery charging time and shorter driving range. The use of regenerative braking systems (RBS) can help solve these problems. To ensure effective regenerative energy storage, it is crucial to regulate the regenerative power using a power electronic system. This paper proposes the use of a three-phase voltage source converter (VSC) and controller. Mathematical model of the plant system is analyzed and used to synthesize the controller for the VSC. Voltage oriented control (VOC) method is used. It consists of two loops: the outer voltage and the inner current loop. Initially, the conventional VOC method was used, however, found to perform poorly because of high overshoot and instability; thus, an improved version of the controller is presented to overcome the issues. Feedback to the voltage loop PI controller and a different set of PI controller parameters was formed. The system was simulated in MATLAB/Simulink environment to evaluate the performance. The proposed VSC show improved overshoot by 70% and steady-state time by 55%, contributing to better efficiency of the regenerative system. With this, the range and life-cycle of an EV can be increased by achieving greater amount of recovered kinetic energy from the RBS.
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					Mumtaj Begam Kasim Rawthar	University of Nottingham Malaysia Campus, Malaysia	Mumtaj.Begam@nottingham.edu.my		
				11.00 - 11.15	Sartikha Sartikha	Politeknik Negeri Batam, Indonesia	sartikha@polibatam.ac.id	Optimization of Genetic Algorithm for Urban Traffic Light Schedule Problem	Congestion is a major problem at urban traffic light intersections. One of the problems is the uneven distribution of vehicles at traffic light intersections, even though the portion of green duration at traffic light intersections is the same. Must present an adjusted deduction based on the number of vehicles at each intersection. In addition to optimizing the green duration, if you only consider one intersection, it will cause other problems such as congestion at the next connected intersection so that the required parameters are used for coordination between the initial intersection and the next connected intersection. In this research, optimization was carried out by giving weight to each parameter based on real vehicle data passing through the route at 11 intersections in Yogyakarta. At 11 intersections, 9 traffic light intersections were taken which will make the optimal green duration based on the parameters of the initial flow, destination flow and trip duration for traffic light coordination between the initial traffic light intersection and the next connected traffic light intersection. Next, the fitness function is formulated and then processed using a genetic algorithm. In the Genetic Algorithm optimization process, chromosomes are the green duration of 9 traffic light intersections which will then be processed with the genetic algorithm stages. The result is 9 optimal green durations based on the initial flow, the destination flow and the duration of the trip. The green duration adjusts the weights with maximum accuracy and reduces the vehicle travel duration from 44-64 seconds per one traffic light and a total of 419 seconds at 9 traffic intersections from the optimized data.
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				Break					
				13.15 - 13.30	Ayu Ahadi Ningrum	Universitas Muhammadiyah Banjarmasin, Indonesia	ayuahadi@umbjm.ac.id	Implementation of Wireless Sensor Network for Automatic Duck Egg Hatching Machine	Due to the development of IoT-based technology, it is easier to exchange data between devices on a massive scale. Its application has expanded to all sectors. One of them is in the field of animal husbandry. In duck egg hatching, seeds are one of the keys to success. Efforts can obtain excellent sources are to using an automatic incubator. In this study, we tried to combine the technology of combining WSN concept and updating the technology of the conventional duck egg hatching process. This study uses a DHT11 sensor, a sound sensor, and a Servo Motor, which can automatically produce a duck egg incubator and be monitored in real time on the website. Based on the results of this study was able to create a hatching process of 87%. We tested this device in the summer and the rainy season. It expects to reduce the risk of failure of the duck egg hatching process
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				13.30 - 13.45	Diono Diono	Politeknik Negeri Batam, Indonesia	diono@polibatam.ac.id	Application IOT (Internet of Things) Technology for Heat Input Variable in the FCAW (Flux Core Arc Welding) Welding Process: Studied at PT. NOV Profab Batam	In the oil and gas sector, the welding process plays an important role in the construction, operation and maintenance phases. At this time, the construction industry has undergone many changes, especially changes in the technology sector. The construction industry, especially the metal fabrication industry related to welding, also experienced the impact of these changes. One of the changes is integrating welding machines with IOT (Internet of Things). This integration makes it easier for personnel including welders, supervisors, welding engineers and management to analyze data from the welding machine. The data from this welding machine can be used as a reference for the quality of welding results, production efficiency and the ability of the welder's performance to produce a good welding result according to the expected standard. In this final project prototype, the integration of FCAW (Flux Core Arc Welding) welding machine with IOT (Internet of Things) uses several components including ESP32-32S as a microcontroller, voltage sensor (voltage), HSTS023R current sensor (amperes), speed sensor Infrared Optocoupler LM393 (travel speed), MySQL database management system (database management system), ThingSpeak website application media and Blynk software application to monitor welding data variables via the internet in real time (real time). It is hoped
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4	Muhammad Jaka Wimbang Wicaksono, S.T., M.T.	Ilmi Ardi	Baloi	10.15 - 10.30	Eko Rudiawan Jamzuri	Politeknik Negeri Batam, Indonesia & National Taiwan Normal University, Taiwan	ekorudiawan@polibatam.ac.id	Object Detection and Pose Estimation Using Rotatable Object Detector DRBox-v2 for Bin-Picking Robot	This research aims to identify and estimate the object's pose to support bin-picking robot perception. In this research, we proposed the usage of the ArUco marker as a visual landmark of the detection area. Furthermore, the image of the detection area is processed by rotatable object detector DRBox-v2 to get the object's position and orientation in the camera frame. In the final process, the resulting DRBox-v2 position and orientation are transformed into a two-dimensional world coordinate as the final estimated pose. Based on the experimental result, the object detection yields an Average Precision (AP) of 0.54 while a threshold score of 0.5 is used. As the pose estimation result, the proposed method yields an average position error of 0.21 cm and a maximum position error of 0.28 cm. For the orientation error, the system achieves a maximum orientation error of about 1.23 degrees with an average orientation error of 0.58 degrees. This research contributes to the possibility of camera usage and end-to-end deep learning detector supporting bin-picking research.
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				10.30 - 10.45	Fitriyanti Nakul	Politeknik Negeri Batam, Indonesia	fitriyantinakul@polibatam.ac.id	Staging Time Evaluation of Transfer Molding to PMC Process Towards Delamination on IC Package	Moisture-induced delamination is one of the reliability concerns in electronic packaging. This work evaluates moisture absorption changes by the staging time approach during the transfer molding to the post molding curing (PMC) process and the impact of moisture changes on the delamination of the integrated circuit (IC) packages. These experimental results can be used as a recommendation to determine the limit of staging time in line production properly and how this method can prevent interfacial delamination on packages during the reflow process. The package reliability were observed by perform SAM visual inspection.
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				10.45 - 11.00	Arif Febriansyah Juwito	Politeknik Negeri Batam, Indonesia	arifjuwito@polibatam.ac.id	Design a Prototype Monitoring System and Data Logging for 3-Phase Electrical Systems	Electrical energy is one of the basic needs in life today, but in it's utilization, several problems can cause losses in the electricity system, one of the causes is nontechnical shrinkage that often occurs on the customer's side in the form of electricity theft. Therefore, innovation is carried out using IoT (Internet of Things) in order to easily monitor the parameters of electricity magnitude. In this study, a stage of collecting parameters of the amount of electricity was proposed. The electric power observation method uses a voltage sensor (ZMPT101B) and a current sensor (SCT-013-000). Arduino Nano microcontrollers are used in measurement systems and the Wemos D1 Mini is used as a link to internet connections over WiFi networks. Measurement data is sent and stored to the MySQL Database in the form of a data logger. The media used is a Website-based GUI. The results showed that remote monitoring using a GUI can be done, where this tool can send parameters of electricity measurement to the GUI with a period every 10 minutes.
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					Miftahul Jihad	Politeknik Negeri Batam, Indonesia	miftahuljihad98@gmail.com		
				11.00 - 11.15	Riska Analia	Politeknik Negeri Batam, Indonesia	riskaanalia@polibatam.ac.id	The Graphical User Interface for Controlling Delta Robot Movement Through G-Code	This research aims to develop a Graphical User Interface (GUI) to control the delta robot using the G-Code command in real-time. The proposed mechanical design of the delta robot adopts a parallel arm mechanism. As primary controller, the Arduino Uno has been chosen as a bridge to translate the joint command from the computer to the robot stepper motor. Furthermore, we proposed the G-Code command to control the delta robot end effector. The system interface was carried out using the C# programming language and the.NET frameworks. As G-Code translation, we proposed an inverse kinematics equation derived from a trigonometric to decode command into joint movement. Finally, the experiment has been carried out in real-time to verify our interface. As an experimental result, the proposed system successfully translates the G-Code command into end effector movement.
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				Break					
				13.15 - 13.30	Mira Chandra Kirana	Politeknik Negeri Batam, Indonesia	mira@polibatam.ac.id	Motion Graphic Sosialisasi Pencegahan Wabah Covid-19	There are many ticketing employees who do not know about prevention to break the chain of the covid-19 outbreak, and the current information delivery is effective in informing ticketing employees. The implementation of the covid-19 socialization video aims to provide information that is packaged in an attractive manner following technological developments so that it is easily accepted by recipients of information. As for the background of this research because the introductory media or promotional media used are in the form of videos by making videos in the form of information on how to prevent them from breaking the chain of the Covid-19 outbreak. This motion graphic video is aimed at ticketing employees who don't know about the information on preventing the Covid-19 outbreak. The motion graphic on the video to socialize the prevention of the covid-19 outbreak was made using the Villamolina development methodology. In this study, the product was then analyzed by an EPIC model to determine the effect and effectiveness of the covid-19 epidemic prevention socialization video. The results of the analysis using the EPIC Model parameters are: (1) Empathy dimension 3.92, (2) Persuasion 4.02, (3) Impact 4.07, (4) Communication 4.11, so the motion graphics on the promotional video CGV E-Card members are declared effective as a promotional medium. The communication dimension is a more dominant factor among other factors. The motion graphics that have been made produce MP4 format videos with a duration of ± 3. With a short duration and dense material, so it can be easily understood and understood. Keywords- motion graphic, covid-19 outbreak prevention socialization, Sars.
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				13.30 - 13.45	Yogy Pratama	Politeknik Negeri Batam, Indonesia	yogypr03@gmail.com	Localization System on Wheel Robot Soccer	Wheeled robot soccer is a robot designed to play soccer. In Fact, the robot must be able to play like humans in wheeled robot soccer competition. The wheeled robot soccer is divided into several parts such as striker robot, defender robot and kipper robot. The striker robot is a robot that has the task of being able to score goals against the opponent's goal and the defender robot has the task of guarding the defense area. While the kipper robot is to guard the goal so that gold does not enter the goal. The positioning of robot is one of the most important things in the manufacture of automatic robots. Robots had to know their position and the opponent robot position . One way to find out how far the robot moves is by using a rotary encoder equipped with a gyroscope. Nevertheless, this method is easily affected by the environment like slips condition. As a result of slip, error
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					[illegible]	[illegible]			position will be generated. To correct error position, another sensor, the camera mounted on the robot, is needed that is not affected by the previous reading.
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5	Ryan Satria Wijaya, S.Tr.T., M.Tr.T.	Pandu Agussa Putra	Kabil	10.15 - 10.30	Muhammad Zainuddin Lubis	Politeknik Negeri Batam, Indonesia	zainuddinlubis@polibatam.ac.id	Study of the Physical Condition of the Waters of the Kabil-Batam Port, Indonesia Based on Hydro-Oceanography	The Kabil-Batam Liquid Bulk Port is a special port that serves the distribution of processed Crude Palm Oil (CPO) products or palm oil located in Kabil Village, Nongsa District, Batam City, Riau Islands, Indonesia. The research by looking at the hydro-oceanographic conditions in these waters aims to determine the physical condition of Kabil Port. The purpose of this study is to determine the condition of the Kabil port in terms of depth, tidal type, distribution of sea surface currents, and wind direction and speed. The data used in this study are bathymetry, tidal, and wind data in 2020. The results of the processing show that the waters of Kabil Harbor have a depth ranging from -1.0 m to -17.0 m LWS with mixed tidal types tending to double daily. In this type, in one day there are two high tides and two low tides. Based on the modeling of ocean currents, it is found that the direction of the surface ocean currents is irregular and divided into two directions, namely one towards the south and one towards the north. The movement of currents in Kabil waters tends to be weak due to the movement of the velocity from 0 - 1 m/s. The distribution of wind speed and direction for 15 days shows that in the waters of the Kabil-Batam CPO port, Indonesia is more dominated to the north with the highest speed or dominant value of 3.50 - 5.50 m/s at 44.0%. Based on the description, it can be concluded that the physical condition of the Kabil port using hydro-oceanography is still stated in terms of depth, tides, currents, and winds because the depth of the Kabil port can still be anchored. In addition, the current and wind speed at the port of Kabil do not have extreme values.
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					Pratiwi Dwi Wulandari	CV. Tizen Construction, Indonesia	jagi@polibatam.ac.id		
				10.30 - 10.45	Churun In Layyinah	Politeknik Elektronika Negeri Surabaya,	churuninl@ce.student.pens.ac.id	Heart Condition Classification Using Deep Learning as A Diagnosing Helper	Heart is one of the most vital organ. One of its roles is to pump blood so that the blood can circulate through the body and then receive it after the blood passed the lungs for cleaning. Unfortunately, heart disease is one of the most deadly disease in the world. One of many tools to support heart disease examination is echocardiography. Echocardiography shows the heart's left ventricular movement so that doctors can see whether the patient is experiencing ischemia or infarction. Sadly, the examination results depend on the doctors' experience and accuracy. Hence, in this study, a system with the ability to classify human heart conditions based on left ventricle movement are developed. The methods used in the system include optical flow Lucas-Kanade to track heart cavity movement. The features that will be extracted from the process are distance and direction. Distance feature will be calculated using Euclidean distance formula and direction feature will be calculated according to the points' angle using cosine triangle formula. And at final, after all the feature obtained, the classification will be done using deep learning method. The tracking and feature extraction process is done succesfully. The classification process obtained 71,43% accuracy.
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				10.45 - 11.00	Muchammad Fajri Amirul, Nasrullah	Politeknik Negeri Batam, Indonesia	fajri@polibatam.ac.id	Rig Implementation Using Duik Bassel Plugin in 2d Animation "Terjebak Hoaks"	2D animation is the process of creating the illusion of moving images from a large collection of objects. This requires the process of giving bones (rigging) which is intended to help create poses and movement of objects without having to draw one by one (frame by frame). The process of rigging has been applied to the character's body in the 2D animation "Terjebak Hoaks" using the Duik Bassel plugin. Duik Bassel is a special computer program (plugin) that is used in After Effects applications as rigging automation in motion creation. The rig technique using the Duik Bassel plugin helps animators when creating character poses, reduces complexity, minimizes pose and object motion time, and still gets the same number of frames when compared to making animation in the traditional way (frame by frame). The icon in the Duik Bassel user interface can be recognized by the user because it is in the form of a human bone image. The aim of this project is to produce a 2D public service animation video in .mp4 format entitled "Terjebak Hoaks". This video will later become a medium for ICT Watch to broadcast information about digital literacy related to how to reduce the spread of hoax news through the website s.id/cekhoaks.
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				11.00 - 11.15	Susanto Susanto	Politeknik Negeri Batam, Indonesia	susanto@polibatam.ac.id	Improving the Stereo Distance Measurement Accuracy on the Barelang-FC Humanoid Robot	Distance estimation is essential in developing humanoid soccer robots. Accurate distance measurement can minimize an error while the robot is maneuvering, chasing a ball, or passing the ball to the proponent robots. Currently, stereo vision and feature matching is the conventional method to estimate the distance. Distance is estimated based on the disparity value between detected features on the stereo image. However, the matching process needs high cost computationally. Furthermore, the estimated distance based on feature matching is less accurate. Therefore, in this work, we proposed the distance estimation based on the object coordinates detected using the YOLOv3. Additionally, we add a linear regression algorithm to improve the measurement accuracy. We did several experiments to verify this proposed method in real-time applications. As a result, our proposed method successfully improves the distance measurement accuracy.
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									Break
				13.15 - 13.30	Rahel Yulianti	Politeknik Negeri Batam, Indonesia	racheljulianti@gmail.com	Obstacle Avoidance System Using LiDAR on Robot Turtlebot3 Burger	The Burger series Turtlebot3 Robot is a standard platform from Robotics Corporation's ROS used as a learning medium and as a prototype in project delivery robots. This Robot Turtlebot3 Burger is used as a learning medium in the application of the system delivery robot. In this research, it was developed a Turtlebot robot can be controlled manually and automatically. An automatic controller can work based on location predetermined coordinates. In an automatic controller, The Turtlebot auto also features an obstacle avoidance system. The obstacle avoidance system is one of the behaviors that allow the Turtlebot to move freely without collision. The sensor that used for this system is Light Detection and Ranging (LiDAR). LiDAR is a remote technology that uses the property of scattered light to find the distance and information of an object from the intended target. LiDAR used is 360 Laser Distance Sensor LDS-01. LiDAR will be processed on Raspberry then LiDAR data will be included in the obstacle avoidance method so that the level of success will be higher. This research resulted in the success rate of the obstacle avoidance system. Expected This obstacle avoidance system will help the Turtlebot to avoid collision with an object when going to the specified waypoint position.
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					Yeni Riska Pratiwi	Politeknik Negeri Batam, Indonesia	yeniriskap@gmail.com		
				13.30 - 13.45	Dwi Amalia Purnamasari	Politeknik Negeri Batam, Indonesia	dwiamalia@polibatam.ac.id	Introducing ESMADI, Android-Based Learning Application with Prototyping Model	Communication is one of the most important components in everyone's daily interaction, including people with hearing and speech impairment. They use sign language as a medium of communication. There are two sign languages in Indonesia, which are Indonesian Sign Language (BISINDO) and Indonesian Sign Language System (SIBI). Sign language can help the communication between two or more parties that have difficulties doing exchange through spoken words. Sign language is not limited to people with hearing and speech impairment. It can also be used by children that have no problem with hearing and speaking. The communication hurdle experienced by children and people with speech and hearing impairment requires special attention. Their language and communication skills can be developed through various special facilities and programs that suit their needs. The success of overcoming the obstacle of speech and hearing impairment depends on the kind of program they undertake. Most of them prefer to learn while playing. Electronic Smart Application for People with Disabilities (ESMADI) is an application that can help users to learn SIBI in an easy, interesting, and exciting way, anytime and anywhere. This application integrates various learning features, such as images, sounds, and videos to ensure an enjoyable learning experience. The method used in designing this application was the prototyping method to facilitate easier development of ESMADI in accommodating users' needs.
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6	Nanta Fakih Prebianto, S.ST., M.Sc	Amalia Rahmatul Azahra	Sagulung	10.15 - 10.30	Rina Yulius, RY	Politeknik Negeri Batam, Indonesia	rinayulius@polibatam.ac.id	Design and Implementation of A Mobile-Based Refrigerator Reminder App	Food waste is a serious problem in Indonesia due to a growth in population numbers. Private households have been identified as key actors in food waste generation. This study aims to develop a mobile app named 'Freeze Reminder' as a tool used for preventing the decay of food ingredients that have forgotten to be processed because they are in storage. The application is developed using The Prototyping Model of SDLC. The quantitative data through a survey were conducted to examine the acceptance of The Freeze Reminder using UEQ. The results of the study verify that The Freeze Reminder app is transforming the access and delivery of food waste reducing.
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				10.30 - 10.45	Amirul Mu'minin	Politeknik Negeri Batam, Indonesia	amirul@polibatam.ac.id	The Effects of the Addictive Effects of Online Games Among US in Terms of Computer-Mediated Communication (CMC) in the Young Generation	One of the trends of today's young generation is playing together through online games, one of which is Among Us by gamers. This game has become the object of research because it provides CMC (Computer-mediated Communication) features, namely via Chat and Voice Chat privately or in groups that are played in multiplayer. This game has received reviews from 5,260,338 players. Through the Voice Chat feature online game CMC communication takes place in the form of voice chat and text chat to provide a sensation of presence to players that trigger the pleasure of playing games. The purpose of this research is to describe things that affect online game addiction by CMC communication on online game features. The research design method is the Abductive approach, by describing and combining quantitative research containing content that makes the game addictive and qualitative in the form of questions containing player reviews totalling 60 players. From the results of this study, it turns out that in Among US games there is a Computer-mediated Communication CMC that makes gamers addicted, namely the presence factor in the form of the presence of other players, group communication, there is a map space (location) that gathers virtually, there is communication in gameplay Game features voice chat, good communication in playing the role of the game, the privacy of player identity is maintained and there is anonymous communication.
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				10.45 - 11.00	Wenang Anurogo	Politeknik Negeri Batam, Indonesia	wenang@polibatam.ac.id	Waters Quality Assessment on Physical-Chemical Parameters Using Remote Sensing Technologies: Criteria for Total Suspended Solids and Waters Transparency	Waters territory is an area that has a large enough natural resource potential. This region has undergone many changes in function to be able to provide benefits and a large contribution in improving the community's economy, but economic activities that convert aquatic land into industrial areas, tourism, and settlements have caused a fairly severe deterioration in waters quality. Some parameters determining the quality of waters include Total Suspended Solid (TSS), and Water Transparency. The development of remote sensing is increasingly rapid making this technology more effectively used for wide coverage areas. This research aims to analyze the concentration level of TSS distribution and waters transparency by using remote sensing data. The results of data processing showed the range of suspended solids in the research area ranged from 9,706 to 16,193 mg /L, and the range of waters transparency is from 3.6536-4.8278 m. The results of the waters quality index processing data from this research based on parameters used are classified into 3 classes; high waters quality, moderate waters quality, and low waters quality. Waters quality in this research which has low waters quality and moderate waters quality is around the island, while most of the results have high waters quality.
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					Muhammad Ghazali	Politeknik Negeri Batam, Indonesia	m.ghazali@polibatam.ac.id		
				Break					
				13.15 - 13.30	Muchammad Fajri Amirul, Nasrullah	Politeknik Negeri Batam, Indonesia	fajri@polibatam.ac.id	Transmedia Storytelling Website-Based Children's Learning	Interest in reading children in Indonesia is still very low. Even though there has been a lot of socialization about the importance of reading books, Indonesian children's interest in reading is still very low at only 0.01% based on a survey from the United Nations Educational Scientific and Cultural Organization (UNESCO). Developments and growing technology encourage people to take advantage of technology, especially in the field of multimedia. This gives researchers the idea to create an application based on digital media which is a story application using the concept of transmedia storytelling. This application aims to provide new pleasure in reading stories, because this application involves audience participation so that users can determine their own storyline. Coupled with audio, text, and 2D animated visuals, children will be interested in reading stories via smartphones, tablets or laptops.
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					Muhammad Taufan Perdana	Politeknik Negeri Batam, Indonesia	ifanmtb@gmail.com		
				13.30 - 13.45	Yeni Riska Pratiwi	Politeknik Negeri Batam, Indonesia	yeniriskap@gmail.com	Autonomous Navigation System Using Indoor GPS on Turtlebot Burger Robot	The Burger series Turtlebot3 robot is a standard platform of ROS robotic coorperation that is used as a learning medium and as a prototype in project robot delivery.This robot has been modified with the addition of LiDAR sensor functions as obstacle avoidance and auto parking as well as the addition of indoor GPS components. This prototype will be used as a medium for delivering goods from a store to a specific production line in a Company. In this study, an autonomous navigation system was created so that the robot can run according to the point and mission of the robot by utilizing Indoor GPS. So that the robot can move properly without any interference from the obstacle, a system is created to help the robot move to avoid the obstacle that utilizes LiDAR sensors that will detect the obstacle and then issue a decision to avoid the obstacle. After the robot completes its mission, it can return to the home base position autonomously using reflective tape as a reference . The expected results of all research conducted are that the robot can run autonomously to the destination point and avoid obstacles and return to the parking station position properly Keywords- Turtlebot3, autonomous, Indoor GPS, obstacle, LiDAR, auto parking, reflective tape
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					Faiz Albar Risi	Politeknik Negeri Batam, Indonesia	albarrisifaiz@gmail.com		
				10.15 - 10.30	Faiz Albar Risi	Politeknik Negeri Batam, Indonesia	albarrisifaiz@gmail.com	Auto Parking System with LiDAR and Reflective Tape for Turtlebot3 Burger Robot	The Turtlebot3 Burger Robot is a standard platform of ROS Robotic coorperation which is used as a learning media also as a prototype in a delivery robot project. This robot has been modified with the addition of the LiDAR sensor for obstacle avoidance and auto parking as well as the addition of an indoor GPS component for robot localization and navigation. This prototype will be used as an item shipper from the store to a certain production line in a company. In this research, an autonomous navigation is made so that the robot can move according to the robot's point and mission by utilizing Indoor GPS. So that the robot can move properly without interference from the obstacle, an obstacle avoidance system is made by utilizing the LiDAR sensor which will detect the obstacle and then make a decision to avoid the obstacle. After the robot completes its mission, the robot can return to the home base position autonomously using reflective tape as a reference. The expected result of this research is that the robot can run autonomously to the destination point, avoid obstacles and return to the parking station position properly
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7	Muhammad Prihadi Eko Wahyudi, S.T., M.T.	Laura Maey Rizky	Batu aji		Rahel Yulianti	Politeknik Negeri Batam, Indonesia	racheljulianti@gmail.com		
				10.30 - 10.45	Mohamad Nasyir Tamara	Politeknik Elektronika Negeri Surabaya & EEPIS, Indonesia	nasir_meka@pens.ac.id	System Design of Warehouse Management AGV for Packages Sorting in Supporting Industry of E-Commerce	The e-commerce industry has used a lot of goods sorting technology using AGV (Automated Guided Vehicle). Goods are moved automatically using an autonomous system can increase the effectiveness and efficiency of the process. Industry is always thinking about it. The benefits of Sorting AGV are felt when a large number of goods (thousands to millions) must be delivered in a matter of days. For that we need an adequate autonomous AGV system that has the features to handle the job. This research focuses on mechanical design with mechanization that can support the entire system and the application of AGV motion control so that it can run well from varying loads. For the need for fast movement and ease of control, the Differential Drive Mobile Robot (DDMR) model was chosen which is equipped with a flipping mechanism to drop the load. PID control as movement control is applied for stable speed under varying load conditions
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				10.45 - 11.00	Budiana Budiana	Politeknik Negeri Batam, Indonesia	budiana@polibatam.ac.id	Study of Corrosion Rate at Aluminum Duralumin with YCbCr Filter Method	Corrosion is a process of damage to metal materials that occurs due to the reaction of the metal with the surrounding environment. Corrosion can threaten structural safety, life safety, environmental protection, and economic development. The cost that must be incurred to carry out corrosion testing according to seal for life reaches $276 B. Based on these problems, a tool is needed that can determine corrosion phenomena such as corrosion rate. The Corrosion rate is a measure of how fast or slows a corrosion process is on a certain surface area and at a certain time. Corrosion test equipment is made using the principle of image technology with the YCbCr Color Filter method to detect corroded material surfaces. This corrosion test equipment has been successfully tested on Aluminum material with a size of 1.8 cm x 2.8 cm with the results showing that Aluminum is corroded after the 3rd day.
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				Break					
				13.15 - 13.30	Daniel Pamungkas	Politeknik Negeri Batam, Indonesia	daniel@polibatam.ac.id	K-NN with Frequency Domain Features for Identify Fingers Movement	Prosthetic hands, which make daily chores easier, are one of the improvements brought about by quick technology advancements. The study and use of technological, therapeutic, and diagnostic principles concerning human activity are known as biomechanics, and it has led to the development of new technology, such as electromyography (EMG). Human muscles contracting or relaxing produce EMG signals, which are signals. This study tries to pinpoint the human finger's opening and closing motion as detected by the Myo Armband sensor. To receive signals from the EMG, the Myo Armband sensor is attached to the subject's right hand's forearm. FFT will be used to transfer the collected data to the frequency domain, and 70% of the EMG signal data will then be used as training data to determine the outcomes of each movement. 30% of the EMG signal data will be used to test the training results, which will then be K-Nearest Neighbor-classified. K-Nearest Neighbor classification techniques used in the study yielded a percentage of correct readings of 73.3%.
				13.30 - 13.45	Anggi Pratiwi	Politeknik Negeri Batam, Indonesia	anggityudapratiwi93@gmail.com	The Influence of Emotional Intelligence, Availability of Information Technology, Application of E-Learning, Class Size, and Machiavellism on Accounting Student Online Learning Outcomes	This study was conducted with the aim of knowing whether emotional intelligence, availability of information technology, application of e-learning, class size and machiavelli's have an effect or not on online learning outcomes for accounting students. This research was obtained from a survey that involving by 225 respondents from all Batam Polytechnic students majoring in business management class 2018 and 2019 with study programs D4 management accounting and D3 accounting using quantitative methods and primary data. The data obtained were analysed using multiple linear regression analysis. The findings of this study show that the variables of emotional intelligence, application of e-learning, and class size have a significant effect on online learning outcomes for accounting students, while availability of information technology and Machiavelli's have no effect on online learning outcomes for accounting students.
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