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Title:
Technical Vocational Education Training Pathway for Post-secondary Autistic Students in Malaysia

Journal:
Advanced Structured Materials, Volume 147, 2021.

Document Type:
Book Chapter

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Abstract:
The Malaysian Ministry of Education aims for 75% of children with special needs to be enrolled in inclusive programmes by 2025 which are specially designed for autistic children aged 5–17. However, this rehabilitation programme is disadvantageous to a certain extent as it only caters for children below 18 years old with no clear post-secondary educational pathway for autistic learners between the ages of 18–25. The significantly growing number of children suffering from learning deficits such as those with autism spectrum disorder (ASD) is now globally researched with more importance being given to addressing this issue in countries around the world [1]. The number of children in special needs programmes has also increased greatly between 2006 and 2013 in Malaysia. Mentally challenged individuals are unique as they have skill sets that are valuable for their well-being and society at large. This awareness justifies their inclusive development movement and global efforts. Malaysia needs a clearer path for post-secondary technical vocational educational training (TVET) for autistic learners in Malaysia as an alternative to the purely academic-based education. This review of related literature in the TVET setting for the autistics will provide a deeper understanding of the needs of our autistic youths to ensure that they are not sidelined in their pursuit of higher education.

2

Title:
Exploratory Study on the Online Learning Understanding Based on Movement and Condition in Sitting Position

Journal:
International Journal of Interactive Mobile Technologies, Volume 15, Issue 18, 2021.

Document Type:
Article (open access)

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Abstract:
This research study the relationship between the understanding of online learning during Movement Control Order (MCO) due to pandemic Covid-19 and the movement condition through the sensor's parameters sensed by smartphone. The studies carried out to track the student's movement and conditions in sitting position while online class conducted and collect the data recorded by using smartphone sensors. The Apps AndroSensor is used to measure the Light intensity (lux), Orientation (axis x, y and z), Sound Level (dB) and Heart Rate (bpm). The understanding of online learning is measured using survey and questionnaire. The respondents that involves on this research are consists from different universities. Multiple Linear Regression was used to conclude the relationship between the parameters and the understanding of online learning. Total 60 students were involved in this study. Students that are selected has followed the criteria needed which are height, weight and age.

3

Title:
Effects of luffa and glass fibers in polyurethane-based ternary sandwich composites for building materials

Journal:
SN Applied Sciences, Volume 3, Issue 12, December 2021.

Document Type:
Erratum (open access)

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Abstract:
Luffa fiber, glass wool (yellow) and glass fiber (white) were used into polyurethane (PU) to prepare sandwich composites. Effects of reinforcement in the composites were evaluated in terms of sound absorbance, water absorption and mechanical properties. In addition, the elastic and plastic nature along with the ignition property of the composites due to the reinforcement of the fibers was also revealed. The thermal properties of the composites were determined by differential scanning calorimetry and thermogravimetric analysis, whereas, the surface morphology of the samples before and after the ignition were examined by scanning electron microscopy (SEM). Result analysis revealed that the PU composites reinforced with glass fiber (white) showed the highest sound absorbance (21.3 dB) and tensile strength (0.96 MPa) compare to the others. The thermal stability was enhanced by 10 °C due to the reinforcement of the glass and luffa fiber. The glass transition temperature was increased significantly (58 °C) by the addition of glass fiber. The sound absorption coefficient changed from 0.21 to 0.27 due to the incorporation of the glass fiber. A large number of different-sized pores created in the composites as observed from the SEM analysis.

4

Title:
Implementation of Lean Technique towards Reducing Waiting Time in a Public Healthcare using Arena Simulation

Journal:
International Journal of Integrated Engineering, Volume 13, Issue 5, 2021.

Document Type:
Article

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Abstract:
Lean is a set of operating philosophies and methods that can help patients create maximum value by reducing waste and waiting time. Longer waiting times are associated with increased levels of discomfort experienced by patients that may affect the patient's mental health, leads to depression, anxiety disorder and psychological distress. The waiting time of clinic is considered one of the crucial aspects of patient satisfaction which is a key indicator of service delivery. Therefore, the purpose of this study is to implement lean techniques towards reducing waiting time at outpatient department in one of the public healthcare centres in Kedah. This study had collected the data for three days at the outpatient department by using qualitative method through interview and observation. Data was collected through a record phenomenon with instrument and observing the service time of patients in the process flow throughout the treatment period from the moment they arrived at the healthcare until treatment is provided and the patient leaves the outpatient department. Arena simulation software designed for data analysis was used to simulate the modeled process in the simulation software. The simulation system can help to produce more accurate decision for an efficient flow of the patient's in and out of the treatment process and reduce the waiting time. The results showed the total average processing time for each patient through all the process had reduced by 7.21 minutes (15.20%) after the waste was eliminated and improvement process had been made. This can lead to an increase in the number of patients in and out in daily operation at the outpatient department.

5

Title:
Influence of hydration on the mechanical, structural, thermal, and morphological properties of cement filled epoxy composites

Journal:
Journal of Vinyl and Additive Technology, Volume 27, Issue 1, February 2021.

Document Type:
Article

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Abstract:
Different loading of Portland cement (PC) (10, 20, 30, and 40 wt%) was used to produce epoxy-based polymer concrete. The optimum loading was used to prepare another sample using hydration in presence of air circulation. The polymer concretes were characterized in terms of mechanical, thermal, structural and morphological properties. The properties showed increasing trends after cement addition. Results showed that the tensile strength of the polymer concretes were improved by 37.2%, 115.5%, 165.9%, and 40.6% for loading of 10, 20, 30, and 40 wt% cement, respectively. In addition, the flexural strength of the polymer concretes was also enhanced and found maximum (175.3% higher) in 30 wt% concrete compared to neat epoxy. Other mechanical properties of the polymer concrete were also found increasing. Moreover, decomposition temperature was raised nearly 15°C for adding 30 wt% cement which was the maximum among the other polymer concretes. For the case of hydration in presence of air circulation, the prepared composite showed the highest tensile mechanical performance with improved surface topography. From the results, it was concluded that the addition of cement into the epoxy was very effective to produce polymer concretes.

6

Title:
Machine Learning for Predicting Employee Attrition

Journal:
International Journal of Advanced Computer Science and Applications, Volume 12, Issue 11, 2021.
.
Document Type:
Article (open access)

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Abstract:
Employee attrition has become a focus of researchers and human resources because of the effects of poor performance on organizations regardless of geography, industry, or size. In this context, the use of machine learning classification models to predict whether an employee is likely to quit could greatly increase the human resource department's ability to intervene on time and possibly provide a remedy to the situation to prevent attrition. This study is conducted with an objective to compare the performance machine learning techniques, namely, Decision Tree (DT) classifier, Support Vector Machines (SVM) classifier, and Artificial Neural Networks (ANN) classifier, and select the best model. These machine learning techniques are compared using the IBM Human Resource Analytic Employee Attrition and Performance dataset. Preprocessing steps for the dataset used in this comparative study include data exploration, data visualization, data cleaning and reduction, data transformation, discretization, and feature selection. In this study, parameter tuning and regularization techniques to overcome overfitting issues are applied for optimization purposes. The comparative study conducted on the three classifiers found that the optimized SVM model stood as the best model that can be used to predict employee attrition with the highest accuracy percentage of 88.87% as compared to the other classification models experimented with, followed by ANN and DT.

7

Title:
Recent advances of the graphite exfoliation processes and structural modification of graphene: a review

Journal:
Journal of Nanoparticle Research, Volume 23, Issue 11, November 2021.

Document Type:
Review

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Abstract:
Graphene, which is made up of single-layer sp2 graphite, has stimulated the interest of researchers in a variety of application fields, including electronics, pharmaceuticals, and chemicals, due to its superior properties. Large-scale production of graphene is essential for the material to be viable and widely used. One of the most efficient methods of accomplishing a huge amount at a reasonable cost is to exfoliate graphite to produce graphene. The purpose of this paper is to analyze several exfoliation procedures based on a common mechanical and chemical mechanism, because a detailed analysis of the exfoliation phenomenon can lead to valuable insights about how to generate high-quality graphene more economically by optimizing exfoliation approaches. In this study, the focus is given on the extensively employed mechanical exfoliation, such as micromechanical cleavage method, sonication method, ball milling method, and fluid mechanics method and chemical exfoliation, such as chemical vapor deposition and chemical method. This study will also focus on the chemical functionalization of graphene, such as covalent functionalization and non-covalent functionalization. This review will give a deep knowledge about graphite exfoliation and functionalization phenomenon, which will guide in the right way for commercial bulk graphene synthesis with less defects.

8

Title:
The Effectiveness of Automated Machine Over Manual Machine in Operational Line

Journal:
International journal of online and biomedical engineering, Volume 17, Issue 12, 2021.

Document Type:
Article

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Abstract:
This project research will concentrate more on the effectiveness of machine over manual machine in operation line at LGL Technology Sdn Bhd. Hence, based on the research problem regarding the effectiveness of LGL operation, it will be necessary to investigate on the operations that are mostly manual machine dependent. Therefore, the researchers decided to exert two research techniques in order to get the information. The first source is the primary sources that include observation and interview. The secondary sources are based on journals, websites, books and articles. Simulation technique was used to mimic the real-world system on the computer and creating a simulation on the current and the proposed design to compare which is more effective to be used. Thus, in the future this project would be able to help the LGL to improve the effectiveness in their operation and it can also improve their service to their customer.