ISBN: 978-969-9948-66-8

CBEIA 2023

3rd International Conference on Computer Applications, Bioinformatics, En
Engineering, Information Technology & Applied Sciences

March 11-12, 2023 / Singapore

Proceedings of 3rd International Conference on Computer Applications, Bioinformatics, Engineering, Information Technology & Applied Sciences (CBEIA)

Conference organized by:

This conference is dedicated to educators all over the world and to the members of the Research Forum for Applied Sciences Engineering and Technology (RFAET) whose passion for teaching, learning, research, and service are helping to transform the academy in many positive ways.

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Exploration of new research bits of knowledge and an intuitive stage for improving innovation and advancement

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Research Forum for Applied Sciences Engineering and Technology

Table of content

Research Forum
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Engineering & Technology

Welcome Message

The Research Forum for Applied Sciences Engineering and Technology (RFAET) welcomes you to the 3rd International Conference on Computer Applications, Bioinformatics, Engineering, Information Technology & Applied Sciences (CBEIA) .
We are happy you decided to join your colleagues from around the world to explore innovative technologies, pioneering pedagogical strategies, and a sampling of international collaborations that are being used to engage and retain students, researchers and Scholars in the new millennium.

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Acknowledgements

The organizing committee would like to thank all those people who were involved in making the conference a success. A great amount of planning and organizing is required to hold a successful conference, so we are indebted to those who volunteered their time and energy.

We want to thank all the members of the Research Forum for Applied Sciences Engineering and Technology (RFAET) who volunteered their time to help organize the conference.

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Conference Description

Research Forum for Applied Sciences Engineering and Technology (RFAET) provides an excellent venue for generating ideas. Conference participants will explore the latest trends, practices, and research in engineering technology and Applied Sciences tracks. The program will emphasize experimentation and pushing the boundaries of higher education.

ENGINEERING TECHNOLOGY

Acoustical Engineering Aerospace Engineering, Agricultural Engineering Biological Engineering and Sciences, Biological Systems Engineering Biomedical Engineering, Bioprocess Engineering Biotechnology, Building Services Engineering Chemical Engineering, Industrial Engineering Information Engineering, Informational Technology Manufacturing Engineering and Technology, Materials Engineering Mechanical Engineering, Mechatronics Nanotechnology and Nanoengineering, Naval Engineering Nuclear Engineering, Technology for Cloud Computing Technology for Community, Technology for Digital Age Technology for Human Use, Technology for Learning Civil Engineering, Computer Engineering Current issues and challenges in Engineering, Electrical Engineering Electronic Engineering, Energy Engineering Environmental Engineering, Food Engineering Genetic Engineering, Geotechnical Engineering Ocean Engineering and Technology, Optical Engineering Petroleum Engineering, Power Engineering Process Engineering, Resource Engineering Sensing Technology, Structural Engineering Systems and Software Engineering, Technology for Big Data Textile Engineering, Thermal Engineering Transport Engineering, Web Engineering Vehicle Engineering

APPLIED SCIENCES

Artificial Intelligence, Architecture, Astronomy, Biological Sciences, Botany, Chemistry, Design, Earth Science, Ecology, Marine Science, Physics, Space Sciences, Life sciences, Computer Sciences, Logic, Mathematics, Statistics, Systems Science, Electrical Engineering, Information, Technology, Industrial Engineering, Mechanical Engineering, Applied Physics, Health Sciences and Medicine, Ceramic Engineering, Computing Technology, Electronics, Energy, Environmental Engineering Sciences, Engineering physics, Environmental Technology, Fisheries Science, Forestry Science, Materials Engineering Micro technology, Nanotechnology, Nuclear, Technology, Optics, Zoology Transportation

Conference Awards

Best Paper Awards
The Organizing Committee will select the best paper considering the recommendations of the Scientific Review Committee based on the relevance to the theme, academic contribution, accuracy of the methodology, clarity of contents.

Best Presentation Awards – Sessions
The best presenter in each session will be selected considering the scientific quality, contents, time management, presentation style and level of interaction with the audience. The best presenter in each session will get a certificate.

Best Presentation Awards – Students
These awards will be awarded the best presenters selected from the PhD or Master level students' presenters. The selection criteria will be scientific quality, contents, time management and presentation style.

Track: Engineering, Technology, Computer and Applied Sciences

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Proposal of Simple Attitude Measurement and Control System of Flexible Pneumatic Spherical Actuator Using Ring-shaped Magnet and Hall Sensor

Yuto Harada [1*], Tetsuya Akagi [2], Shujiro Dohta [3], Takashi Shinohara [4], , Feifei Cho1 [5], Masashi Yokota [6]
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Development of pneumatic flexible actuators with high human affinity such as welfare support equipment and VR equipment with the progress of aging society has being carried out. In the previous study, as a portable rehabilitation device that can give passive exercise while holding it by hands, a Flexible Pneumatic Spherical Actuator (FPSA) that consists of three Extension type Flexible Pneumatic Actuators (EFPAs) restrained in the shape of a rugby ball by PET sheets was proposed and tested. In this report, focusing on the fact that the bending directional angle of the FPSA is determined by the pressurized EFPA, a simple measurement system that can measure the bending angle and elongation displacement by only using one displacement sensor was proposed and tested. In detail, by measuring the displacement from the bottom restraining plate to the base at the center the FPSA, the bending angle and elongation displacement of whole FPSA was estimated. As a sensor, a non-contact type displacement sensor using ring-shaped magnet and hall sensor was used. Also, a compact driving system that can decrease number of necessary valves was proposed and tested. As a result, it can be confirmed that the proposed system with the novel sensor can trace the desired angle and height even if necessary number of valves is decreased from six to four.

Index Terms: Control System, Sensor, Measurement

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Proposal of Flexible Pneumatic Linear Stepping Actuator with Pushing/Pulling Mechanism in Bending Motion

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Recently, rehabilitation devices using soft actuators have been actively developed. The actuators are required long stroke motion with large force. In the previous study, a flexible pneumatic linear stepping actuator (PLSA) that can perform a long stroke motion with large force was proposed and tested. The PLSA can push and pull the rigid rod by switching the holding position of the rod. In this paper, a novel PLSA that can push or pull the rod while changing the direction of pushing/pulling force was proposed and tested. The PLSA consists of a rod, pneumatic holding mechanisms, and a pushing/pulling mechanism in bending motion using by using extension type flexible pneumatic actuators (EFPAs). The control system using an embedded controller and ten on/off valves was also proposed and tested. As a result, it can be confirmed that the tested actuator (PLSA) can realize pushing/pulling motion while the bending direction of the rod is changed. It can be supposed that the PLSA can be used as a rehabilitation device for passive exercise while holding the rod by hands.

Index Terms: Pneumatic Linear , Pushing, Pulling Mechanism

Research Forum
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Engineering & Technology

Modified Carbonate Apatite Nanoparticles-Facilitated in Vitro Delivery of Sirna(s) Targeting Calcium Ion Channels Kills Breast Cancer Cells

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Specific gene knockdown facilitated by short interfering RNA (siRNA) is a potential approach for suppressing expression of ion channels and transporter proteins to kill breast cancer cells. Overexpression of calcium ion channels, namely TRPM7, TRPM8, SLC41A1, SLC41A2 and MAGT1 is seen in a variety of breast cancer subtypes. Since naked siRNA is anionic and prone to nuclease-mediated degradation, it has limited permeability across the cationic cell membrane and short systemic half-life, respectively. Carbonate apatite (CA) nanoparticles (NA) were formulated in presence of enhanced bicarbonate salt as compared to classical carbonate apatite, characterized, loaded with ion channels TRPM7, TRPM8, SLC41A1, SLC41A2 and MAGT1 siRNAs and delivered into two breast cancer cell lines to selectively knockdown the respective calcium ion channels. Individual and combined knockdown of TRPM7, TRPM8, SLC41A1, SLC41A2 and MAGT1 genes showed significant reduction in cell viability of breast cancer cells. Therefore, CA-siRNA-facilitated gene knockdown holds a high prospect for deregulating cell proliferation and anti-apoptotic pathways modulated by Ca signalling in breast cancer cells.

Index Terms: Calcium Ion, Proliferation, Characterized

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Web Based Attendance and Evaluation System with Prescriptive Analytics

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Problem Statement—The main goal of this study is to improve the operation process of getting the attendance and computing the evaluation results to monitor training programs being held by the school for their employees and to reduce / lessen the unreliable and time-consuming process of their manual operation and it can be accessible through any forms of technologies that has an internet connection.
Methods—Rapid Application Development was used to facilitate faster software development scheme of the system. Use case diagrams, activity diagrams and class diagrams were utilized to illustrate the system functions and routines. Various fact finding techniques in the analysis, design, development and evaluation of the intended software were used. Fact finding instruments such as interviewing and observation were applied to determine the requirements of the desired application. Questionnaires were used for measuring the efficiency of the proposed system as evaluated by the end-users.
Results—Results of the evaluation on the proposed system were based on an ISO 25010 standard which showed that the criteria on portability ranked as the highest, followed by the functionality, criteria for usability, reliability, security and maintainability, and lastly, criteria for the efficiency of the proposed system ranks as the lowest. The result of the evaluation showed that the developed system have achieved its functional requirements in applying the modern way of tracking and evaluating trainings through on-line. Therefore, the proponent highly recommends that the proposed system be implemented for an effective and efficient evaluation tool.
Conclusion—Using a Web Based Training and Attendance Evaluation System with Prescriptive Analytics is a great solution to the ever building stacks of paper cluttering desks and file cabinets, and provides immediate feedback about training performance which eventually benefits the management to increase their productivity, and the employees to monitor their own learning, in particular.

Index Terms: Evaluation, Proliferation,Employees

Upcoming Events

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