Editorial

The University of Bahrain (UOB) is keen to encourage the academic staff to conduct scientific research through funding the scientific research projects and providing the publishing awards for the researchers publishing their research in the international refereed journals.

In addition, UOB encourages the academic staff to undertake contract studies for both the private and public sectors in the Kingdom of Bahrain. This strategy aims to find the suitable scientific solutions for the problems faced by the society using the applied and social research. This type of research needs team work rather than a single person work.

The team work enhances cooperation and the adherence to the agreed plan with the client sponsoring and funding the contract research. Furthermore, the team work, undertaking contract research, has to interact with the client to get familiar with day-to-day problems and to find the appropriate solutions.

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Editor - in - Chief
Student’s achievement level in mathematics has been an issue in Bahraini schools for the past decades. It is one of the main reasons why Bahrain is trying to move from the traditional ways of teaching and learning mathematics to a way better fit for the 21st century requirements. The past studies on attitudes indicate that there is a correlation between attitudes and the achievement in the schools. This study attempts to find out whether such relationships exist in Bahrain context. Maths and Me Survey (Adelson, 2006) was translated into Arabic and administered to 985 primary students. The data was analysed to explore the reliability and validity of the translated survey and the associations between the attitudes toward mathematics and the achievement. This paper reports the findings of the study.
Cybercrimes, Computer Forensics and their Impact in Bahrain Climate: Bahrain Status Research Journal of Business Management

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Researching on certain factors that play a vital role in the cybercrimes taking place in Bahrain. Cyber-attacks and crimes are the consequences that balance out the advantages gained from daily advancements in technologies. These attacks come in many forms. Customer awareness’ is crucial to fight cybercrimes and many studies have reflected that millions of dollars are lost due to computer crimes and attacks. The conclusions of this study are based on an actual data collected from the Ministry of Interior (MOI) in Bahrain. The research findings indicate that a variety of cases reported at the MOI. A remarkable discipline has been developed to limit and investigate computer crimes related issues: computer forensics. The Economic Impact of Cybercrimes in Business and global has been discussed. In this study computer crimes as well as computer forensics are discussed and supported by actual data from MOI and research evidences found in literatures.

Keywords: Cybercrime, viruses, worms, phishing, denial of service, hacking, computer forensics, Bahrain, economic impact, computer.
This paper discusses a method for designing a fuzzy-rule-based classifiers using enhanced particle swarm optimization (EPSO). Two different fuzzy classifiers are considered and optimized. The first classifier is based on Mamdani fuzzy inference system (M_EPSO fuzzy classifier). The second classifier is based on Takagi-Sugeno fuzzy inference system (TS_EPSO fuzzy classifier). The parameters of the proposed fuzzy classifiers including premise (antecedent) structure of fuzzy rules are optimized using EPSO. The performances of M_EPSO and TS_EPSO fuzzy classifiers are compared to commonly used fuzzy based classifiers. Experimental results show that higher classification accuracy can be obtained with limited number of fuzzy rules by using the proposed EPSO fuzzy classifiers. Another comparison that shows the consistency of EPSO for optimizing the proposed fuzzy classifiers over other evolutionary algorithms is also presented.
BioCementation technology depends on the consolidation of sand particles by using pure microorganisms (B. pasteurii) under complete sterilization conditions during the cellular growth. In this study, an enrichment culture of ureolytic bacteria was used to precipitate aggregates of calcite in-situ under non-sterile conditions. Those bacteria were enriched in the presence of 3 M urea. Soil sample was collected from agricultural fields in Sakhir, Bahrain. Then they were used to precipitate calcite in-situ and consolidate sand particles in the presence of high concentration of 1 M equimolar urea and calcium ions. Continuous feeding of cells was applied. Optical microscope, SEM, EDS, XRD and XRF examinations revealed that this impure bacterial culture resulted in precipitating aggregates of calcite nanoparticles in spherical arrangement in-situ which consolidate packed sand column. Natural competence between bacteria in the enrichment culture did not affect their ability to precipitate calcite nanoparticles and strengthen the sand without interfering with the hydraulics of the treated sand. Therefore, cost of BioCementation technology can be lowered due to the enrichment of local bacteria under non-sterile conditions.
E-learning can be considered as a useful tool for enhancing the quality of the educational process. However, the success of any technology application is dependent on how good it would satisfy the needs of its key stockholders, who compose the constituency of an organization and address their concerns. In the context of e-learning, students are the main stakeholders. Therefore, there is an emergent need to understand the factors that influence the use of e-learning to satisfy the students and improve their learning. The main aim of the current study is to investigate the factors that affect the use of e-learning by the postgraduate students at the Arab Open University. Factors such as motivation and social interaction were selected to e-learning. Moreover, the effect of e-learning on the students’ perceived satisfaction and performance was examined. The study sample is comprised of postgraduate students enrolled in the AOU—the Kingdom of Bahrain branch. One hundred and fifty surveys were distributed both in person and as a web survey. The results provide a great indication about the use of e-learning at the Kingdom of Bahrain. Results on the research model and hypotheses show that motivation is the main factor that has the most significant impact on using e-learning at the AOU, followed by student-student interaction. Student-instructor interaction has shown to have an indirect impact on e-learning via motivation.