

# TechNU

*Monthly flyer  
Research Unit  
College of Computer Science  
and Information Systems  
Najran University*

*Issue #1  
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**كلية علوم الحاسب ونظم المعلومات**  
COLLEGE OF COMPUTER SCIENCE AND INFORMATION SYSTEMS

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## **Editorial**

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***TechNU** is a monthly flyer issued by the Research Unit in the college of computer science and information systems at Najran University. The original idea of this flyer started by Dr. Hani Alshahrani, the vice dean of academic affairs. The topics vary from tech news to college news to research and academic accomplishments. We welcome your contribution to this flyer by sharing your thoughts and achievements. The flyer is open for all college members faculty, staff, and students in both campuses male and female.*

***Special thanks to everyone made the first issue possible.***

*Dr. Hani Alshahrani  
Dr. Asadullah Shaikh  
Dr. Mohammed Hamdi  
Mr. Yahya Almazni*

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***Director of Research Unit***  
*Dr. Adel Sulaiman*

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## New Faculty Members in College of CSIS

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**Dr. Mana Saleh Al Reshan** received his bachelor's degree in information systems from King Khalid University. Master's degree in computer, information and network security from DePaul University, Chicago, IL, USA. He received Doctor of Philosophy in Computer Science, information security from The Catholic University of America, Washington, DC, USA. Dr. Al Reshan's research areas include Body Area network security, information security, cloud security, cybersecurity, and wireless security.



experimental design.

**Dr. Turki Alelyani** received his Ph.D. in Software Engineering from Stevens Institute of Technology, New Jersey, United States. Prior to that, he received his master's degree in computer science from Stevens as well. Dr. Alelyani's research studies Socio-Technical Systems Design in order to overcome some of the challenges in motivation, engagement, coordination, and collaboration. His research is applied to different domains including engineering design, healthcare, and education. He approaches this research by conducting empirical studies that involve using statistical analysis, machine learning, and

**Dr. Adel Sulaiman** is an assistant professor in the Department of Computer Science. He has a master's in software engineering from the University of St. Thomas, Minnesota and a Ph.D. in Computer Science from Iowa State University, USA. His research includes Human-Computer Interaction, large scale simulations, mixed reality, and scientific visualization. Dr. Sulaiman now leads the Research Center in the College of Computer Science and Information Systems.



## New Faculty Members in College of CSIS



**Mr. Ibrahim Alyami** received the B.S. degree in computer science from Najran University, Saudi Arabia, in 2014, and the M.S. degree in computer science from Loyola University Chicago, Illinois, United States, in 2019. He is a lecturer at Najran University. He has some experience in education. His recent activities include teaching some courses such as Computer Application for Health Science and Introduction to Computers at Najran University and working with the Teaching and Learning Committee to implement “NCAAA Accreditation”.

**Mr. Mousa Saleh Alalhareth** received his Master of Science in Information System from University of Maryland Baltimore County, Baltimore, United States of America (2019). He is interested in the following research areas, Big Data, Human centered-computing, Health informatics, Machine Learning.



**Mr. Mohammed Hunaidi Assiri** received a Master of Science in Computer Network from King Fahd University of Petroleum and minerals (KFUPM), Dhahran, Kingdom of Saudi Arabia, in 2019 and Bachelor's in computer science from King Khaled University, Abha, Saudi Arabia (2007). He has a desire to pursue a Ph.D. in computing and computer networks sciences. His aim is to contribute to academic work, applied research, and a quality assurance environment using innovation, cooperation, and self-development.

**Prepared by Dr. Mohammed Hamdi**

## Faculty Members Promoted Associate Professor



**Dr. Khairan D. Rajab** is working as an Associate Professor, Dean of E-learning and Distance Education. He is also the Head of Network and Communication Engineering Department at College of Computer Science and Information Systems (CSIS), Najran University, Najran, Saudi Arabia. He received Ph.D. in Computer Science and Engineering from the University of South Florida, United States under supervision of Prof. Les A. Piegl. He also received his masters from the University of South Florida and his bachelor from the University of South Carolina, United States. Dr. Rajab has published more than 20 research papers in high impact factor journals and reputable conferences. He is also a reviewer and editorial board of several research conferences and journals. His research interests are geometric modeling, NURBS, data mining, and network security, as well as cyber learning; in addition he is a member of IEEE.



**Dr. Anwar Ali Yahya** is an Associate Professor at Computer Science Department, College of Computer Science and Information Systems, Najran University in Saudi Arabia. Holds a Ph. D. in Artificial Intelligence from University Putra Malaysia, M. Sc. in Artificial Intelligence from University of Technology, Baghdad, Iraq, and B. Sc. In Computer Science from Basrah University, Iraq. He has many years of teaching, research and quality assurance experiences in higher education. He has published more than 30 publications in reputed ISI-JCR and Scopus indexed Journals of Taylor & Francis, Wiley, Elsevier, IEEE, and Springer. He is also a member of review board for several international journals. His research areas are educational data mining, machine learning, natural language processing, and evolutionary algorithms.



**Dr. Asadullah Shaikh** has a Ph.D. in software engineering from the University of Southern Denmark. Dr. Shaikh obtained his M.Sc in software engineering and management from Goteborg University Sweden and B.Sc in software development from the University of Huddersfield, England. Dr. Shaikh is currently working as an associate professor, head of research, and coordinator of seminars and training in the college of Computer Science and Information Systems Najran University, Najran, Saudi Arabia. He has more than 80 publications in the area of software engineering in international journals and conferences. He has vast experience in teaching and research and has worked as a researcher in UOC Barcelona Spain. He is also an editor and an international advisory board of several conferences and journals. His current research topics are UML Model Verification, UML Class Diagrams Verification with OCL Constraints for Complex Models, formal Verification, feedback technique for Unsatisfiable UML/OCL Class Diagrams. Further details regarding Dr. Shaikh are available using [www.asadshaikh.com](http://www.asadshaikh.com).

## Best paper award for Mr. Alshehri

### *An Encryption-Based Approach to Protect Fog Federations from Rogue Nodes*



**Abstract.** The cloud computing paradigm has revolutionized the concept of computing and has gained a huge attention since it provides computing resources as a service over the internet. As auspicious as this model is, it brings forth many challenges: everything from data security to time latency issues with data computation and delivery to end users. To manage these challenges with the cloud, a fog computing paradigm has emerged. In the context of the computing, fog computing involves placing mini clouds close to end users to solve time latency problems. However, as fog computing is an extension of cloud computing, it inherits the same security and privacy challenges encountered by traditional cloud computing. These challenges have accelerated the research community's efforts to find effective solutions. In this paper, we propose a

secure and fine-grained data access control scheme based on the ciphertext-policy attribute-based encryption (CP-ABE) algorithm to prevent fog nodes from violating end users' confidentiality in situations where a compromised fog node has been ousted. In addition, to provide decreased time latency and low communication overhead between the Cloud Service Provider (CSP) and the fog nodes (FNs), our scheme classifies the fog nodes into fog federations (FF), by location and services provided, and each fog node divides the plaintext to be encrypted into multiple blocks to accelerate the time when retrieving ciphertext from the CSP. We demonstrate our scheme's efficiency by carrying on a simulation and analyzing its security and performance. [More>>](#)

## Dr. Asadullah Shaikh's paper is accepted in IEEE

### Access with 4.098

#### *Evaluating and Ranking Cloud-based E-Learning Critical Success Factors (CSFs) using Combinatorial Approach*

**Abstract.** Cloud computing has been regarded as one of the significant Information Technology (IT) tools. Many sectors are adopting cloud computing services for its business support. Moreover, the new IT paradigm has transformed the cloud-based E-Learning system to become more user-friendly. As a result, the cloud-based E-Learning usage is growing rapidly and being preferred over the conventional teaching-learning process in a big way. This revolutionary change is attributed to the advancement in digital technology. The transformation in digital technology has made the teaching-learning process flexible, easy and convenient for effective knowledge transfer. The cloud-based E-Learning process relies on various dimensions and CSFs and holds significant value hence must be studied. The current research provides a detailed literature review for cloud-based E-Learning CSFs of the teaching-learning process. Further, the research employs the combinatorial approach to evaluate the diversified dimensions and CSFs of cloud-based E-Learning. A total of four dimensions and twelve factors have been identified by going through an in-depth literature review. The combinatorial approach has been adopted in evaluating and prioritizing the dimension and CSFs of cloud-based E-Learning. The research helps the stakeholders in quantifying and comparing the influence of various dimensions and CSFs of cloud-based-E-Learning.

## ***Four Special Issues of Scopus Journals are accepted with affiliation of Department of Information Systems, Najran University***



***International Journal of Online and Biomedical Engineering***

<https://online-journals.org/onlinejour/index.php/i-joe>

***Guest Editor: Dr. Asadullah Shaikh***

***Department of Information System Najran University***

The objective of the journal is to publish and discuss fundamentals, applications and experiences in the field of remote engineering, cyber-physical systems, virtual instrumentation and online simulations. The use of virtual and remote-controlled devices and remote laboratories is one of the future trend developments for advanced teleworking/e-working environments.

Online Engineering is the future trend in engineering and science. It covers working directions such as remote engineering, cyber-physical systems, virtual instrumentation, simulation techniques and others



***International Journal of Quality Research***

<http://www.ijqr.net/>

***Guest Editor: Dr. Asadullah Shaikh***

***Department of Information System Najran University***

*International Journal for Quality Research examines new research and development at the quality. It provides a common forum for both frontline industrial management as well as pioneering academic research. The journal's multidisciplinary approach draws from such fields as benchmarking, business excellence, e-quality, management systems, performance measurements and management, process management and improvement, quality management, six sigma, supply chain management, quality and leadership, quality information systems, quality of life Both the Editorial Advisory Group and the Editorial Board feature outstanding individuals from academia and industry, ensuring that all the multiple frontiers in the quality field are covered.*



## **Biosciences Research**

[https://www.isisn.org/Bioscience\\_Research.htm](https://www.isisn.org/Bioscience_Research.htm)

**Guest Editor: Dr. Asadullah Shaikh**

**Department of Information System Najran University**

Publishing the best original research papers in all key areas of modern biological sciences from the world's leading laboratories, Bioscience Research aims to provide a dynamic forum for this ever growing international research community. Bioscience Research publishes original peer-reviewed articles, review papers and short communications concerning all aspects of biological sciences.



## **International Journal of Sociotechnology and Knowledge Development (IJSKD)**

<https://www.igi-global.com/journal/international-journal-sociotechnology-knowledge-development/1108>

**Guest Editor: Dr. Ahmad Taher Azar**

**Publication Chair: Dr. Asadullah Shaikh**

**Department of Information System Najran University**

*The International Journal of Sociotechnology and Knowledge Development (IJSKD) wishes to publish papers that offer a detailed analysis and discussion on sociotechnical philosophy and practices which underpin successful organizational change thus building a more promising future for today's societies and organizations. It will encourage interdisciplinary texts that discuss current practices as well as demonstrating how the advances of - and changes within - technology affect the growth of society (and vice versa). The aim of this journal is to bring together the expertise of people who have worked practically in a changing society across the world for people in the field of organizational development and technology studies including information systems development and implementation.*

## Students Activities Unit

**The objective of Students Activities Unit** in college of computer sciences and information systems is to help students improve their skills, raise their knowledge level, and enhance students' personality. Students have always the power and passion to learn new things and because of that the activities unit has existed. The unit provides students with what they need in order to develop their abilities. The unit also work to find students with different hobbies and try preserving these hobbies by conducting activities. Another main goal of Students Activities Unit is to create and spread a mindset of the active student in the college which can benefit not only students but also college.



### **Types of Activities:**

Seminars  
Workshops  
Training  
Visits  
Sports activities

### **Activities conducted this year:**

IT Visit  
Soccer training outside of campus



### **Activities conducted Last year:**

How to Find Postgraduate Studies  
How to find paid summer training/internship  
Professional Certification Cisco  
How to prepare for an interview  
Orientation  
Database Administration

**Prepared By Mr. Yahya Al-Mazni**

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**Develop a passion  
for learning. If you  
do, you will never  
cease to grow.**

Anthony J. D'Angelo

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***Editing Committee***

Please contact us for comments or articles for the next issue.

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