

MAMDOUH ALENEZI, PhD

Prince Sultan University | College of Computer and Information Sciences

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Academic/Education Administrator | Promoting Comprehensive Educational Programs Through Data-Driven, Evidence-Based Strategies

- ✚ **Academic Leadership:** Visionary, Analytical, and Innovative Academic/Education Administrator with a legacy for improving institutions' success and empowering students, faculty departments, and lecturers/teachers.
- ✚ **Educational Expertise:** Adept at all facets of educational administration, teaching, research, professional development, academic services, consultancy, and community engagements.
- ✚ **Curriculum Development:** Proven ability to create a conducive education environment, institution-wide learning programs, as well as student and teacher-centered curricula that promote learner achievements and staff development.
- ✚ **Institutional Research:** Proficient in steering research-based activities among students and institutions to create the foundation for major advances in evolving technologies and help educate students to be scientific leaders and innovators.

EDUCATION

- Ph.D. Software Engineering** | North Dakota State University – Fargo, ND **2014**
Thesis: "A New Coupling Metric: Combining Structural and Semantic Relationships"
- M.S. Software Engineering** | DePaul University, Chicago, IL **2011**
- B.S. Computer Science** | Prince Sultan University, Riyadh **2010**

PROFESSIONAL EXPERIENCE

PRINCE SULTAN UNIVERSITY– Riyadh, Saudi

Dean of Quality Assurance and Development

Sep 2020 – Present

- Coordinate all activities relating to assessment and enhancement of academic programs and non-academic services impacting student welfare.
- Provide vision and dynamic leadership to maximize the quality of academic programs based on intended learning outcome assessments.
- Direct the Office of Quality Assurance and Development by establishing data-driven standards and measurement methods; serve as the quality assurance auditor for the University.
- Manage and follow up with the university strategic plan by providing progress reports, strategy adjustments, and closing plans and corresponding projects.

Associate Professor (Department of Computer Science)

Dec 2018 – Present

Assistant Professor (Department of Computer Science)

Sep 2014 – Dec 2018

- Contribute to the development, planning, and implementation of a high-quality course curriculum and outlines; design student-centered course and lesson plans.
- Carry out research in areas of specialization by writing grant proposals and publishing and disseminating research results to create and enhance knowledge.
- Mastermind innovative methods of delivering course instructions, peer review research, and distance learning to students.
- Mentor students and keep them close during their study, while on their coop period, and after their graduation.

Dean of Educational Services

Sep 2018 – Aug 2020

- In charge of conducting students orientation for newly enrolled students by informing them about bylaws, services, and best practices to pass excellently their preparatory year.
- Enhanced campus-wide teaching and learning environment through visionary leadership and support to educational developments and best practices within the faculty.
- Intensified oversight exercises on educational services to improve academic support activities, including semesterly knowledge assessments and yearly course placements.
- Liaised with the Vice President for Academic Affairs, Dean of Admission and Registration, and Academic Deans on enrollment, retention, completion, success, institutional research, and academic student conduct.
- Ensure the mapping between preparatory year courses and university requirements with program learning outcomes and institutional learning outcomes.

Chief Information & Technology Officer**Sep 2016 – Aug 2019****General Supervisor of Information Technology & Computing Services****Mar 2016 – Aug 2016**

- Drafted and executed the smart campus plan by integrating best practices of digital transformation and emerging technologies.
- Implemented new and existing technology, systems, and applications for the continuous support of academic operations, resulting in improved student success.
- Directed the Information Technology Services Division by developing and articulating a clear vision of technology uses and benefits to the entire University.
- Led the efforts of implementing an ERP system for HR, accounting, and financing departments at the university.
- Developed a continuous information technology planning process to serve faculty, staff, students, and the community.

Chairman of the Department of Computer Science**Sep 2015 – Aug 2016**

- Channeled leadership efforts towards optimizing instructional programs and curricula innovation to expand course and degree offerings.
- Managed the department, enforcing unity among staff as well as students and introducing academic programs to ensure maximum student success.
- Revamped the offered courses to align them with IEEE, ACM, and ABET curricula guidelines.
- See feedback from alumni employers to integrate their feedback into the curricula.

EDUCATIONAL DEVELOPMENTS

New Course Developments – SE 411: Software Construction | **SE 311:** Software Requirements Engineering | **SE 415:** Group Dynamics & Professional Practice | **SE 489:** DevOps Engineering | **CYS 402:** Secure Software Engineering

Master Degree Curriculum Development – MS in Software Engineering | MS in Cybersecurity Engineering Program

Service and Administration (Committee) – University level Examination | PSU Institutional Policy | Institutional Strategic Planning | ABET Steering | Institutional Technology and Quality | Institutional Executive Research

Master Thesis Committee

A Context-Aware Personalization Model for Augmented Reality Applications
 User Experience Dimensions, Aspects, and Measures: Systematic Literature Review
 Software Architecture Stability Evolution in Open-Source Object-Oriented Systems

TEACHING EXPERIENCE**Prince Sultan University****2014 – Present**

- Delivering lectures, supervising dissertations, and assisting with student assessment in the following courses.
 - SE 201: Introduction to Software Engineering
 - SE 211: Software Construction
 - SE 311: Software Requirements Engineering
 - SE 322: Software Design & Architecture
 - SE 353: Building Secure Software Systems
 - SE 401: Software Quality Assurance & Testing
 - SE 415: Group Dynamics & Professional Practice
 - SE 489: DevOps Engineering

Gifted High-school Students | Mobile Development using Visual Studio

2009**CONSULTANCY & FUNDING EXPERIENCE****Semi-Government Software Development Company****2019**

- Ran a software process improvement initiative to speed up and optimize the development.
Result 1: Standard CMMI Appraisal Method for Process Improvement.
Result 2: 9 recommendations to improve the team performance and increase the quality.

King Abdulaziz City for Science and Technology (KACST)**2017**

- Architected a Dynamic Capacity Provisioning in a Cloud-Based Network.
Result 1: Solved the challenge of resource allocation.
Result 2: Handled advanced and online reservation resource requests. (163,200 SAR).

Major Saudi Telecom Company

2016

- Led a medium-sized project to investigate root-cause reasons for a high percentage of repeated tickets.
Result 1: Reduced repeated tickets
Result 2: Improved field operations performance

National Information Solutions Cooperative (NISC)

2013

- Transformed the billing management system of Walmart to a web service.
Result: Helped Branch managers access utility bills on their mobile devices

Wisconsin Falconers Association

2011

- Building a reservation system for visitors.
Result: Attracted thousands of foreigners/tourists interested in ornithology.

PUBLICATIONS

Mamdouh Alenezi: "Internal Quality Evolution of Open-Source Software Systems." Applied Sciences, 2021, 11, 5690

Mamdouh Alenezi: "Safeguarding Cloud Computing Infrastructure: A Security Analysis." Computer Systems Science and Engineering Vol.37, No.2, 2021, pp.159-167

Khalid T. Al-Sarayreh, **Mamdouh Alenezi**, Mohammed Zarour, and Kenza Meridji: "A reference measurement framework of software security product quality (SPQNFSR)." IET Information Security, 2021

Mohammad Zarour, **Mamdouh Alenezi**, Amal Krishna Sarkar, Alka Agrawal, Rajeev Kumar, and Raees Ahmad Khan: "Healthcare Data Breaches: Insights and Implications." Healthcare 2020, 8(2), 133

Celestine Iwendi, Suleman Khan, Joseph H. Anajemba, Mohit Mittal, **Mamdouh Alenezi**, Mamoun Alazab: "The Use of Ensemble Models for Multiple Class and Binary Class Classification for Improving Intrusion Detection Systems." Sensors 2020, 20(9), 2559

Alka Agrawal, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "Measuring the Sustainable-Security of Web Applications Through a Fuzzy-Based Integrated Approach of AHP and TOPSIS." IEEE Access, Volume 7, pp. 153936 - 153951 November 2019

Alka Agrawal, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "A source code perspective framework to produce secure web applications." Computer Fraud & Security, Volume 2019, Issue 10, pp. 11 - 18 October 2019

Alka Agrawal, Mohammad Zarour, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "Security durability assessment through fuzzy analytic hierarchy process." PeerJ Computer Science, 5:e215 September 2019

Alka Agrawal, **Mamdouh Alenezi**, Dharendra Pandey, Rajeev Kumar, and Raees Ahmad Khan: "Usable-Security Assessment Through A Decision Making Procedure." ICIC Express Letters, Part B: Applications, Volume 10, Number 8, pp. 665 - 672 July 2019

Rajeev Kumar, Mohammad Zarour, **Mamdouh Alenezi**, Alka Agrawal, and Raees Ahmad Khan: "Measuring Security Durability of Software through Fuzzy-Based Decision-Making Process." International Journal of Computational Intelligence Systems, Volume 12, Number 2, pp. 627 - 642 June 2019

Attiq ur Rehman Jaffar, Muhammad Nadeem, **Mamdouh Alenezi**, and Yasir Javed: "Using Public Vulnerabilities Data to Self-Heal Security Issues in Software Systems." ICIC Express Letters, Volume 13, Number 7, pp. 557 - 567 July 2019

Alka Agrawal, **Mamdouh Alenezi**, Suhel Ahmad Khan, Rajeev Kumar, Raees Ahmad Khan: "Multi-level Fuzzy System for Usable-Security Assessment." Journal of King Saud University-Computer and Information Sciences (2019)

Mamdouh Alenezi, Muhammad Usama, Khaled Almustafa, Waheed Iqbal, Muhammad Ali Raza, and Tanveer Khan: "An Efficient, Secure, and Queryable Encryption for NoSQL-Based Databases Hosted on Untrusted Cloud Environments." International Journal of Information Security and Privacy (IJISP), Volume 13, Issue 2, pp. 14 - 31 (2019)

Md Tarique Jamal Ansari, Dharendra Pandey, and **Mamdouh Alenezi**: "STORE: Security Threat Oriented Requirements Engineering Methodology." Journal of King Saud University - Computer and Information Sciences (2018)

Muhammad Abdullah, Saad Khan, **Mamdouh Alenezi**, Khaled Almustafa, and Waheed Iqbal: "Application Centric Virtual Machine Placements to Minimize Bandwidth Utilization in Datacenters." Intelligent Automation and Soft Computing

Iman Almomani and **Mamdouh Alenezi**: "Efficient Denial of Service Attacks Detection in Wireless Sensor Networks." Journal of Information Science and Engineering Vol. 34, No. 4 (2018), pp. 977 – 1000

Mamdouh Alenezi, Khaled Almustafa and Khalim Amjad Meerja: "Cloud based SDN and NFV architectures for IoT infrastructure." Egyptian Informatics Journal (2018)

- Mamdouh Alenezi**, Khaled Almustafa and Mohamed Hussein: "On Virtualization and Security-Awareness Performance Analysis in 5G Cellular Networks." *Journal of Engineering Science and Technology Review* Vol. 11, No. 1 (2018), pp. 199 – 207
- Thamer Alhamed and **Mamdouh Alenezi**: "Business Continuity Management & Disaster Recovery Capabilities in Saudi Arabia ICT Businesses." *International Journal of Hybrid Information Technology* Vol. 9, No. 11 (2016), pp. 99-126
- Mamdouh Alenezi**, "Software Architecture Quality Measurement Stability and Understandability." *International Journal of Advanced Computer Science and Applications (IJACSA)*, Volume 7 Issue 7, pp. 550-559 (2016)
- Ibrahim Abunadi and **Mamdouh Alenezi**: "An Empirical Investigation of Security Vulnerabilities within Web Applications." *Journal of Universal Computer Science* Vol. 22, No. 4, pp. 537-551 (2016)
- Mamdouh Alenezi** and Fakhry Khellah. "Evolution Impact on Architecture Stability in Open-Source Projects." *International Journal of Cloud Applications and Computing (IJCAC)* 5.4 (2015): 24-35
- Mamdouh Alenezi** and Khaled Almustafa: "Empirical Analysis of the Complexity Evolution in Open-Source Software Systems" *International Journal of Hybrid Information Technology (IJHIT)*, Vol.8, No.2, (2015)
- Mamdouh Alenezi** and Kenneth Magel: "Empirical Evaluation of A New Coupling Metric: Combining Structural and Semantic Coupling." *International Journal of Computers and Applications* 36(1) (2014)

CONFERENCE PROCEEDINGS

- Yasir Javed, Qasim Ali Arian, and **Mamdouh Alenezi**: "SecurityGuard: An Automated Secure Coding Framework." 3rd International Conference on Intelligent Technologies and Applications INTAP 2020, September 2020, Gjøvik, Norway
- Wajdi Aljedaani, Yasir Javed, and **Mamdouh Alenezi**: "LDA Categorization of Security Bug Reports in Chromium Projects." ESSE 2020 : European Symposium on Software Engineering, November 2020, Pages 154–161, Roma, Italy
- Wajdi Aljedaani, Yasir Javed, and **Mamdouh Alenezi**: "Open Source Systems Bug Reports: Meta-Analysis." ICBDE '20: Proceedings of 2020 The 3rd International Conference on Big Data and Education, April 2020, Pages 43–49
- Mohammad Zarour, **Mamdouh Alenezi**, Maurice Dawson, and Izzat Alsmadi: "Toward Effective Cybersecurity Education in Saudi Arabia." 17th International Conference on Information Technology–New Generations (ITNG 2020), April 2020 Pages 79-85
- Mohammad Zarour, **Mamdouh Alenezi**, Khalid Alsarayrah: "Software Security Specifications and Design: How Software Engineers and Practitioners Are Mixing Things up." EASE '20: Proceedings of the Evaluation and Assessment in Software Engineering, April 2020 Pages 451–456
- Mamdouh Alenezi**, Hamid Abdul Basit, Faraz Idris Khan, Maham Anwar Beg: "A Comparison Study of Available Software Security Ontologies." EASE '20: Proceedings of the Evaluation and Assessment in Software Engineering, April 2020 Pages 499–504
- Mamdouh Alenezi** and Faraz Idris Khan: "Context-Sensitive Case-Based Software Security Management System." 3rd Computational Methods in Systems and Software 2019
- Mamdouh Alenezi** and Iman Almomani: "Empirical Analysis of Static Code Metrics for Predicting Risk Scores in Android Applications." 5th International Symposium on Data Mining Applications (SDMA2018), Riyadh, Saudi Arabia
- Mamdouh Alenezi** and Iman Almomani: "Abusing Android Permissions: A Security Perspective." 2017 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), Amman, Jordan
- Khaled Almustafa and **Mamdouh Alenezi**: "Cost Analysis of SDN/NFV Architecture over 4G Infrastructure." The 8th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN-2017), Lund, Sweden
- Mamdouh Alenezi**, Mohammed Akour, Alaa Hussien, and Mohammad Z. Al-Saad: "Test Suite Effectiveness: An Indicator for Open Source Software Quality." The 2nd International Conference on Open Source Software Computing (OSSCOM 2016), Beirut, Lebanon
- Mamdouh Alenezi** and Yasir Javed: "Open Source Web Application Security: A Static Analysis Approach." International Conference on Engineering & MIS 2016 (ICEMIS'16), Agadir, Morocco
- Yasir Javed and **Mamdouh Alenezi**: "Defectiveness Evolution in Open Source Software Systems." 4th Symposium on Data Mining Applications (SDMA 2016), Riyadh, Saudi Arabia
- Khaled Almustafa and **Mamdouh Alenezi**: "Dynamic Evolution of Source Code Topics." The Tenth International Conference on Software Engineering Advances (ICSEA 2015), Barcelona, Spain

Ibrahim Abunadi and **Mamdouh Alenezi**: “Towards Cross Project Vulnerability Prediction in Open Source Web Applications.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey

Mamdouh Alenezi and Mohammad Zarour: “Modularity Measurement and Evolution in Object-Oriented Open-Source Projects.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey

Mamdouh Alenezi and Fakhry Khellah: “Architectural Stability Evolution in Open-Source Systems.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey

Mamdouh Alenezi, Shadi Banitaan, and Qasem Obeidat: “Fault-Proneness of Open Source Systems: An Empirical Analysis.” International Arab Conference on Information Technology (ACIT 2014), Nizwa, Oman

PROFESSIONAL ASSOCIATIONS

Conference Chair

- 5th International Symposium on Data Mining Applications (SDMA2018)
- 6th International Conference on Data Science and Machine Learning Applications (CDMA 2020)

Program Committee Membership

- Workshop on Machine Learning for Predictive Models (MLPM 2014), 13th IEEE International Conference on Machine Learning and Applications (ICMLA 2014).
- International Conference on Computing and Informatics (ICOCI 2015).
- The Third Information Systems International Conference (ISICO 2015).
- The Tenth International Conference on Software Engineering Advances (ICSEA 2015).
- International Conference on Computing Education and Information Technology (ICCEIT 2015).
- Workshop on Machine Learning for Predictive Models in Engineering Applications (MLPMEA 2015), 14th IEEE International Conference on Machine Learning and Applications (ICMLA 2015).
- International Conference on Computing Education and Information Technology (ICCEIT 2015).
- The 7th International Conference on Information and Communication Systems (ICICS 2016).
- The 4th Symposium on Data Mining Applications (SDMA 2016).
- The 4th Saudi International Conference on Information Technology, Big Data Analysis (KACSTIT 2016).
- The Eleventh International Conference on Software Engineering Advances (ICSEA 2016).
- Special Session: Machine Learning for Predictive Models in Engineering Applications, The 18th IEEE International Conference on Machine Learning and Applications (ICMLA 2019).

RESEARCH SERVICES

Reviewer of International Indexed Journals

- International Journal of Cloud Applications and Computing (IJCAC)
- KSII Transactions on Internet and Information Systems
- Journal of Ambient Intelligence and Humanized Computing
- International Journal of Software Engineering and Knowledge Engineering
- Information and Software Technology
- Journal of Information Security and Applications
- ACM Computing Surveys
- Education and Information Technologies

Master Students Supervision

- Hussain Alshehri - Internet of Things - Architecture of Multiple Sources Data Acquisition Sensors
- Sultan Alotaibi - An exploratory study of DevOps Awareness and Adoption in Saudi Arabia
- Abdulrahman Asiri - Cloud-based Cross-enterprise Imaging Framework
- Thamer Alhamed - Measuring the Capability of Business Continuity Management & Disaster Recovery in the Kingdom of Saudi Arabia ICT Companies
- Turki Alshammary - Software Architecture Understandability in Object-Oriented Systems
- Hassan Al-Mousa - Software Architecture Stability Evolution in Open Source Object-Oriented Systems
- Laila Al-Rowais - Framework for Security Testing of Web Applications
- Khawlah Alomar - Static Analysis of Open-Source Web Applications