Izzat M. Alsmadi, Ph.D. Professor Computing & Cyber Security College of Arts and Science

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Academic Background

- Ph.D. Software Engineering, North Dakota State University, Fargo, ND, 2008.
- M.S. Software Engineering, North Dakota State University., Fargo, ND, 2006.
- M.S. Computer Information Systems, University of Phoenix. 2003
- B.S. Telecommunication Engineering, Mut'ah University, Jordan 1994.

Professional Certifications

Cisco Certified Network Associate CCNA, 2000

WORK EXPERIENCE

Work Experience

CCS Department Chair, Texas A&M, San Antonio (June, 2021 – Sep. 2023), San Antonio, Texas. Graduate Coordinator, Texas A&M, San Antonio (June, 2021 – Sep. 2023), San Antonio, Texas. Research Computing Director, Texas A&M, San Antonio (June, 2021 – present), San Antonio, Texas.

Associate Professor, Texas A&M San Antonio (September, 2020 - Present), SAN ANTONIO, Texas.

Assistant Professor, Texas A&M University - San Antonio (August, 2016 - 2019), San Antonio, Texas.

Assistant Professor, University of New Haven (September, 2015 - July, 2016), West Haven, Connecticut.

Assistant Research Professor, Boise State University (June, 2014 - September, 2015), Riyadh, Saudi Arabia.

Associate Professor, Prince Sultan University (August, 2013 - June, 2014), Riyadh, Saudi Arabia.

Assistant Professor, Yarmouk University (March, 2008 - August, 2013), Yarmouk, Jordan.

Lecturer & Research Assistant, North Dakota State University (August, 2004 - March, 2008), Fargo, North Dakota.

Lecturer (Full Time), Yarmouk University (August, 2003 - August, 2004), Yarmouk, Jordan.

Network Engineer and Support, Yegwa Communications, 2000-2003, CA, USA

Network Engineer and Support, RJAF, Jordan: 1994-1999

TEACHING

TEACHING HIGHLIGHTS (PERIOD: TEXAS A&M, SAN ANTONIO 2016-2023)

- New Graduate Programs: I prepared the proposals for the three graduate programs in the department, MS in computer science, MS in cyber security and PhD in cyber security. By far, collectively those were my most time-consuming tasks that I completed in the last 7 years. Each proposal has several sections and one of the main typical sections is the section related to the courses that will be offered in the program and details about those courses.
- Graduate coordinator: I have been working as CCS graduate coordinator in the last two years trying to

deal with a struggling program in several aspects. The program has only 3 enrolled students in the first two years before I became a graduate coordinator. I worked to deal with some internal problems with the program as well as external problems. This year, we have more than 20, local and international students. Numbers are continuously growing. I consider this as a significant teaching achievement for the department ensuring that the program will grow and support our department and its goals and mission.

- 20 new or different courses: In my 6 years of teaching in TAMUSA, I taught around 20 different undergraduate and graduate courses. I consider this as a significant achievement as it indicates my flexibility and ability to teach a variety of different courses in different sub-disciplines in computing based on our department needs. Additionally, teaching new courses for the first time, requires more effort from any instructor in comparison with teaching courses more often or frequently.
- MS thesis courses: In addition to my role as graduate coordinator, I supervised 3 of the 6 students who chose the thesis option in our department. I consider this as a significant achievement as students exchange information with each other and typically pick faculties who can help and be more involved with them throughout the two-courses of the thesis. Additionally, currently, those are extra loads, and not compensated for in our department.
- Senior Project or Seminar courses: I joined Texas A&M in 2016. And I remember in the first graduation in the Coliseum, one of our distinguished students, she stopped me outside the Coliseum, and she told me "Dr. Alsmadi, I'm begging you on behalf of our CS (Computer Science) students to look at the senior project course and change the current content.". The course in the CS and CISA sections were taught by a faculty who left and it was mainly teaching MongoDB, something that students struggled and did not connect with. Regardless of what you do, it is a very tough course because it's supposed to be an exit course that will accumulate the knowledge and all the other courses and so on and so forth, so whatever you do students will struggle. I took the course and intended to make it one of the most unique and beneficial courses in all our CCS programs for both CS and CISA students, specially as it is required for all majors and is typically considered one of the hard courses. My main idea was to introduce three main marketable skills to our students: (1) research which is typically unique for undergraduates, (2) machine learning and at the time I introduced this in the senior project, no other course was focused in machine learning, another important marketable skills, and (3) Python, similar to machine learning at the time when I started teaching the senior project or seminar course, Python was not in any of our courses while it is a major programming language in the industry and research. In addition I collaborated with major entrepreneur organizations in the city such as Geekdom to help our students work in real problems that can serve their city and community. Some of those projects go local recognition. Below is one example, related to San Antonio public library, article from 2019 TAMUSA president report:

https://www.tamusa.edu/documents/university-communications/2019-presidents-report.pdf

(KLRN-TV, "SciTech Now" | Nov. 14, 2019 Technology has taken a step forward with the invention of a new mobile app that uses voice assistants to help disabled patrons of the San Antonio Public Library. This is thanks to A&M-San Antonio computer science majors Clinton Minton, Artem Skitenko, Harry Staley and David Velez, who worked as a team to create the app, which allows anyone, including the disabled, to have quick and easy access to books and services at the library.)

• **Publications with Students**: I have published many research papers, conference and journal papers, with students from TAMUSA and other Universities. Those students are both graduate as well as undergraduate students. Several examples of those can be found in my resume. In the research section, I highlighted papers with students along with names of students authors.

EXAMPLES OF STUDENTS POSTERS

- 1. University Ranking Systems Assessment.
- 2. Gopher: Investigating a Less-Used Internet Protocol.
- 3. Stock Data and Google Trends Correlation Assessment.
- 4. TAMU Branches Data Analysis.
- 5. Online Malware Scanner; Comparison.

OTHER TEACHING AND STUDENTS RELATED ACTIVITIES

- Cyber Competitions: Building student teams at TAMUSA to participate on national cyber security competitions: Examples of those competitions: (1) Panoply, two time, https://cias.utsa.edu/competitions/panoply/, (2) Online Capture the Flag challenges, https://ctflearn.com/, https://ctfsites.github.io/, https://ctf.hacker101.com/, (3) Alamo ACE, https://www.nationalccdc.org/)
- 2. Students Clubs: I helped establishing two new clubs in the department and worked as the faculty mentor/advisor for the two clubs since their establishment. Those two clubs and National Cyber Security Students Association (NCSA) and Armed Forces Communications & Electronics Association International (AFCEA)

INTELLECTUAL CONTRIBUTIONS

<u>A HIGHLIGHT</u>

I have been selected among the TOP 2% researchers WORLDWIDE.

This is a yearly evaluation conducted by ELSVIER and STANFORD UNIERSITY to select the most distinguished RESEARCHERs worldwide.

The link: https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4

5 year Intellectual Contributions Grid

Category	Total
Articles in Refereed Journals	27
Publications in Refereed Conference Proceedings	24
Publications of Non-refereed or Invited Papers	4
Books, Monographs, Compilations, Manuals, Supplements, Chapters, Cases, Readings	3
Grants - Funded (both refereed and non-refereed)	7

Refereed Articles

Keys:

- 1. "Alsmadi, Izzat; Dwekat, Zyad; Cantu, Ricardo; Al-Ahmad, Bilal; ",Vulnerability assessment of industrial systems using Shodan,Cluster Computing,25,3,1563-1573,2022,Springer US
- 2. "Ahmad, Rasheed; Alsmadi, Izzat; Alhamdani, Wasim; Tawalbeh, Lo'ai; ",Towards building data analytics benchmarks for IoT intrusion detection,Cluster Computing,25,3,2125-2141,2022,Springer US
- "Sharrab, Yousef O; Alsmadi, Izzat; Sarhan, Nabil J; ",Towards the availability of video communication in artificial intelligence-based computer vision systems utilizing a multi-objective function,Cluster Computing,25,1,231-247,2022,Springer US
- "Martin, Kevin; Rahouti, Mohamed; Ayyash, Moussa; Alsmadi, Izzat; ",Anomaly detection in blockchain using network representation and machine learning,Security and Privacy,5,2,e192,2022,"Wiley Periodicals, Inc. Boston, USA"
- 5. "Ahmad, Rasheed; Alsmadi, Izzat; Alhamdani, Wasim; Tawalbeh, Lo'ai; ",A comprehensive deep learning benchmark for IoT IDS,Computers & Security,114,,102588,2022,Elsevier Advanced Technology

- 6. "Alsmadi, Izzat; ","Adversarial Machine Learning, Research Trends and Applications",Big Data Intelligence for Smart Applications,,,27-55,2022,Springer International Publishing Cham
- "Alsmadi, Izzat; Aljaafari, Nura; Nazzal, Mahmoud; Alhamed, Shadan; Sawalmeh, Ahmad H; Vizcarra, Conrado P; Khreishah, Abdallah; Anan, Muhammad; Algosaibi, Abdulelah; Al-Naeem, Mohammed Abdulaziz; ",Adversarial machine learning in text processing: a literature survey,IEEE Access,10,,17043-17077,2022,IEEE
- "Easttom, Chuck; Alsmadi, Izzat; ",A Comparitive Study of Machine Learning Algorithms for Identifying Mental States from EEG Recordings,2022 IEEE 12th Annual Computing and Communication Workshop and Conference (CCWC),,,0644-0648,2022,IEEE
- "Alsmadi, Izzat; Tawalbeh, Lo'ai; ",New Waves of Cyber Attacks in the Time of COVID19,"Advances in Computing, Informatics, Networking and Cybersecurity: A Book Honoring Professor Mohammad S. Obaidat's Significant Scientific Contributions",,,617-630,2022,Springer International Publishing Cham
- "Ahmad, Rasheed; Alsmadi, Izzat; Alhamdani, Wasim; Tawalbeh, Lo'ai; ",A deep learning ensemble approach to detecting unknown network attacks, Journal of Information Security and Applications, 67,, 103196, 2022, Elsevier
- 11. "Liang, Gongbo; Alsmadi, Izzat; Xin, Xin; ",Benchmark Assessment for Optimization Andacceleration Libraries in Deep Learning-Based Models,,,,,2022,
- 12. "Sharma, Sonam; Alsmadi, Izzat; Alkhawaldeh, Rami S; Al-Ahmad, Bilal; ",Analytical and Predictive Model for the impact of social distancing on COVID-19 pandemic,2022 13th International Conference on Information and Communication Systems (ICICS)...405-410,2022,IEEE
- "Al-Omari, Ahmad; Allhusen, Andrew; Wahbeh, Abdullah; Al-Ramahi, Mohammad; Alsmadi, Izzat; ",Dark web analytics: A comparative study of feature selection and prediction algorithms,2022 International Conference on Intelligent Data Science Technologies and Applications (IDSTA),,,170-175,2022,IEEE
- 14. "Alsmadi, Izzat; Al-Ahmad, Bilal; Alsmadi, Mohammad; ",Malware analysis and multi-label category detection issues: Ensemble-based approaches,2022 International Conference on Intelligent Data Science Technologies and Applications (IDSTA),,,164-169,2022,IEEE
- "Kunda, Mohammed Ali; Alsmadi, Izzat; ",Practical web security testing: Evolution of web application modules and open source testing tools,2022 International Conference on Intelligent Data Science Technologies and Applications (IDSTA),,,152-155,2022,IEEE
- "Alsmadi, Izzat; Ahmad, Kashif; Nazzal, Mahmoud; Alam, Firoj; Al-Fuqaha, Ala; Khreishah, Abdallah; Algosaibi, Abdulelah; ","Adversarial nlp for social network applications: Attacks, defenses, and research directions", IEEE Transactions on Computational Social Systems,...,2022, IEEE
- "Alsmadi, Izzat; Rice, Natalie Manaeva; O'Brien, Michael J; ",Fake or not? Automated detection of COVID-19 misinformation and disinformation in social networks and digital media, Computational and Mathematical Organization Theory,,,1-19,2022, Springer US
- 18. "Ahmad, Rasheed; Alsmadi, Izzat; Alhamdani, Wasim; Tawalbeh, Lo'ai; ",Zero-day attack detection: a systematic literature review,Artificial Intelligence Review,,,1-79,2023,Springer Netherlands
- 19. "Ahmad, Rasheed; Alsmadi, Izzat; Al-Ramahi, Mohammad; ",Optimization of deep learning models: benchmark and analysis,Advances in Computational Intelligence,3,2,7,2023,Springer International Publishing Cham
- 20. "Liang, Gongbo; Guerrero, Jesus; Zheng, Fengbo; Alsmadi, Izzat; ",Enhancing Neural Text Detector Robustness with μ Attacking and RR-Training,Electronics,12,8,1948,2023,MDPI
- "Alsmadi, Izzat; Tsado, Lucy; Gibson, Camille; ",Towards Cyber Readiness Assessment in Rural Areas,International Conference on Advances in Computing Research,,,630-639,2023,Springer Nature Switzerland Cham
- 22. "Lakkineni, Swathi; Tawalbeh, Lo'ai; Alsmadi, Izzat; ",Big Data and Blockchain for Cybersecurity Applications: Challenges and Solutions,Computational Intelligence for Cybersecurity Management and Applications...3-28,2023,CRC Press
- 23. "Liang, G; Guerrero, J; Zheng, F; Alsmadi, I; ","Enhancing Neural Text Detector Robustness with µAttacking and RR-Training. Electronics 2023, 12, 1948",,,,,2023,

- 24. "Alomari, Ayham; Idris, Norisma; Qalid, Aznul; Alsmadi, Izzat; ",Improving Coverage and Novelty of Abstractive Text Summarization Using Transfer Learning and Divide and Conquer Approaches,Malaysian Journal of Computer Science,36,3,271-288,2023,
- 25. "Liang, Gongbo; Atoum, Mohammad Salem; Xing, Xin; Alsmadi, Izzat; ",Benchmark assessment for the DeepSpeed acceleration library on image classification,Cluster Computing,,,1-12,2023,Springer US
- "Nahar, Khalid MO; Alsmadi, Izzat; Al Mamlook, Rabia Emhamed; Nasayreh, Ahmad; Gharaibeh, Hasan; Almuflih, Ali Saeed; Alasim, Fahad; ","Recognition of Arabic Air-Written Letters: Machine Learning, Convolutional Neural Networks, and Optical Character Recognition (OCR) Techniques",Sensors,23,23,9475,2023,MDPI
- "Alomari, Ayham; Al-Shamayleh, Ahmad Sami; Idris, Norisma; Sabri, Aznul Qalid Md; Alsmadi, Izzat;
 Omary, Danah; ",Warm-Starting for Improving the Novelty of Abstractive Summarization,IEEE
 Access,,,,2023,IEEE
- 28. "Alsrehin, Nawaf O; Gupta, Mohit; Alsmadi, Izzat; Alrababah, Saif Addeen; ",U2-Net: A Very-Deep Convolutional Neural Network for Detecting Distracted Drivers, Applied Sciences, 13, 21, 11898, 2023, MDPI
- "Guerrero, Jesus; Liang, Gongbo; Alsmadi, Izzat; ",Adversarial Text Perturbation Generation and Analysis,2023 3rd Intelligent Cybersecurity Conference (ICSC),,,67-73,2023,IEEE
- 30. "O'Mara, Alexander; Alsmadi, Izzat; Aleroud, Ahmed; Alharthi, Dalal; ",Phishing Detection Based on Webpage Content: Static and Dynamic Analysis,2023 3rd Intelligent Cybersecurity Conference (ICSC),,,39-45,2023,IEEE
- "Al-Omari, Ahmad; Alsmadi, Izzat; Dendy, John; ",Anomaly Detection in Crypto Currency,2023 3rd Intelligent Cybersecurity Conference (ICSC),,,63-66,2023,IEEE
- 32. "Kishiyama, Brian; Alsmadi, Izzat; ",A Review on Searchable Encryption Functionality and the Evaluation of Homomorphic Encryption, arXiv preprint arXiv:2312.14434,,,,2023,
 - 33. *#Ahmad, R., Alsmadi, I., Alhamadani, W., & Tawalbeh, L. A. (2022). A Comprehensive Deep Learning Benchmark for IoT IDS. Computers & Security, 114 (102588).
 - 34. *#Ahmad, R., Alsmadi, I., Alhamdani, W., & Tawalbeh, L. (2022). A Deep Learning Ensemble Approach to Detecting Unknown Network Attacks. Journal of Information Security and Applications.
 - 35. *Alsmadi, I. M., ALJAAFARI, N., Nazzal, M., Alahmad, S., & Sawalmeh, A. (2022). Adversarial Machine Learning in Text Processing: A Literature Survey. IEEE Access Journal.
 - 36. *#AlOmari, A., Idris, N., & Sabri, A. (2022). Deep reinforcement and transfer learning for abstractive text summarization: A review. Computer Speech & Language.
 - 37. *#Martin, K., Rahouti, M., Ayyash, M., & Alsmadi, I. (2021). Anomaly detection in blockchain using network representation and machine learning. Security and Privacy, Wiley.
 - Otoum, I., Baklizi, M., Alsmadi, I., Otoum, A., & Alhersh, T. (2021). Challenges of Software Requirements Quality Assurance and Validation: A Systematic Literature Review. IEEE Access Journal.
 - 39. *#Alhowaide, A., Alsmadi, I., & Tang, J. (2021). Ensemble detection model for IoT IDS. Internet of Things.
 - 40. Alicea, M., & *Alsmadi, I. (2021). Misconfiguration in Firewalls and Network Access Controls: Literature Review. MDPI Future Internet.
 - 41. *#Ahmad, R., Alsmadi, I., Alhamdani, W., & Tawalbeh, L. (2021). Models versus Datasets: Reducing Bias through Building a Comprehensive IDS Benchmark. MDPI Future Internet.
 - 42. *#Ahmad, R., Alsmadi, I., Alhamdani, W., & Tawalbeh, L. (2021). Towards building data analytics benchmarks for IoT intrusion detection. Cluster Computing.
 - Sharrab, Y., Alsmadi, I., & Sarhan, N. (2021). Towards the availability of video communication in artificial intelligence-based computer vision systems utilizing a multi-objective function. Cluster Computing.
 - 44. *Alsmadi, I., Dwekat, Z., Cantu, R., & Al-Ahmad, B. (2021). Vulnerability assessment of industrial systems using Shodan. Cluster Computing.

- 45. Taylor, Z., & Alsmadi, I. M. (2020). College Affordability and US News & World Report Rankings. Journal of Interdisciplinary Studies in Education, 9 (1), 1-25.
- 46. *Alsmadi, I., & O'Brien, M. J. (2020). How Many Bots in Russian Troll Tweets?. Information Processing & Management, 57 (6), 102303.
- 47. *Alsmadi, I., & Al-Abdullah, M. (2020). A model for reputation rank in online social networks and its applications. International Journal of Social Network Mining 2.2, 3 (1), 77-98.
- 48. Najadat, H., Alaiad, A., Alasal, S. A., Mrayyan, G. A., & Alsmadi, I. (2020). Integration of Data Envelopment Analysis and Clustering Methods. Journal of Information and Knowledge Management, 19 (01), 2040006.
- Malkawi, R., Alsmadi, I., Aleroud, A., & Petrov, P. (2020). A firewall-adversarial testing approach for software defined networks. Journal of Theoretical and Applied Information Technology.
- 50. AlRamahi, M., & *Alsmadi, I.. (2020). Classifying Insincere Questions on Question Answering (QA) Websites: Meta-Textual Features and Word Embedding. Journal of Business Analytics.
- 51. Al-Abdullah, M., Alsmadi, I., AlAbdullah, R., & Farkas, B. (2020). Designing privacy-friendly data repositories: a framework for a blockchain that follows the GDPR. Digital Policy, Regulation and Governance.
- 52. *Alsmadi, I. M., Aleroud, A., & Saifan, A. (2020). Fault-based testing for discovering SQL injection vulnerabilities in web applications. International Journal of Information and Computer Security.
- 53. *#Ahmad, R., & Alsmadi, I. (2020). Machine learning approaches to IoT security: A systematic literature review. Internet of Things.
- 54. *#Alhowaide, A., Alsmadi, I., & Tang, J. (2020). Towards the design of real-time autonomous IoT NIDS. Cluster Computing.
- 55. *Alsmadi, I., Taylor, Z. W., & Childs, J. (2020). US News & World Report Best Colleges rankings: Which institutional metrics contribute to sustained stratification?. Scientometrics, 1-19.
- 56. *#Taylor, Z. W., Childs, J., Bicak, I., & Alsmadi, I. M. (2019). Is Bigger, Better? Exploring U.S. News Graduate Education Program Rankings and Internet Characteristics. Interchange.
- *Alsmadi, I. (2018). Cybersecurity Education Based on the NICE Framework: Issues and Challenges. Information Systems Control Journal (IS Audit & Control Journal), 4.
- 58. *Alsmadi, I., Khreishah, A., & Xu, D. (2018). Network slicing to improve multicasting in HPC clusters. Cluster Computing, 1-14.
- 59. *#Al-Molegi, A., Balleste, A. M., & Alsmadi, I. M. (2018). Regions of Interest Discovering and Predicting in Smartphone Environments. Pervasive and Mobile Computing.
- 60. Al-Kabi, M., Alsmadi, I. M., *#Khasawne, R., & #Wahsheh, H. (2017). Evaluating Social Context in Arabic Opinion Mining. The International Arab Journal of Information Technology.
- 61. *Alsmadi, I., & Zarour, M. (2017). Google N-Gram Viewer does not Include Arabic Corpus! Towards N-Gram Viewer for Arabic Corpu. The International Arab Journal of Information Technology.
- 62. Aleroud, A., & Alsmadi, I. M. (2017). Identifying cyber-attacks on software defined networks: An inference-based intrusion detection approach. Journal of Network and Computer Applications.
- 63. *Alsmadi, I., & Zarour, M. (2017). Online integrity and authentication checking for Quran electronic versions. Applied Computing and Informatics.
- 64. Al-Kabi, M. N., Al-Ayyoub, M., Alsmadi, I. M., & *#Wahsheh, H. A. (2016). A Prototype for a Standard Arabic Sentiment Analysis Corpus. The International Arab Journal of Information Technology.
- 65. *Alsmadi, I. (2016). The Integration of Access Control Levels Based on SDN. International Journal of High Performance Computing and Networking.
- 66. Al-Kabi, M. N., Kazakzeh, S. A., Abu-Ata, B. M., & Alsmadi, I. M. (2015). A novel root based Arabic stemmer. Journal of King Saud University Computer and Information Sciences.
- 67. *Alsmadi, I., & Zarour, M. (2015). Building an Islamic financial information system based on policy managements. Journal of King Saud University Computer and Information Sciences.
- 68. *Alsmadi, I., & Alhami, I. (2015). Clustering and Classification of Email Contents. Journal of King Saud University Computer and Information Sciences.

- 69. *Alsmadi, I., Hassan, N., & Al-oqily, I. (2015). Evaluating the importance of the weight factors in DEA optimisation. International Journal of Data Science 1.2.
- 70. Al-Kabi, M. N., Alsmadi, I. M., & *#Wahsheh, H. A. (2015). Evaluation of Spam Impact on Arabic Websites Popularity. Journal of King Saud University Computer and Information Sciences.
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- 72. Hanandeh, F. A., Alsmadi, I. M., Al-Shannag, M. Y., & Al-Daoud, E. (2015). Mobile agents modelling using UML. International Journal of Business Information Systems.
- 73. *Alsmadi, I., & Xu, D. (2015). Security of Software Defined Networks: A Survey, Computers and Security, Computers & Security 53. Computers & Security.
- 74. *#Al-Nabulsi, H., Alsmadi, I. M., & Al-Jarrah, M. (2014). Textual Manipulation for SQL Injection Attacks. International Journal of Computer Network and Information Security.
- 75. #Dabbour, M., *Alsmadi, I., & Alsukhni, E. (2013). Efficient Assessment and Evaluation for Websites Vulnerabilities Using SNORT. International Journal of Security and its Applications.
- 76. Al-Ramahi, M., Alazzam, I., & *Alsmadi, I. (2013). The Impact of Using Pair Programming: A Case Study. International Journal of Teaching and Case Studies.
- 77. *Alsmadi, I. (2013). Using Mutation to Enhance GUI Testing Coverage. Institute of Electrical and Electronics Engineers.

Chapters, Cases, Readings, Supplements

*Alsmadi, I., & Al-Abdullah, M. (2019). Testing Assessment of Group Collaborations in OSNs. *Emerging Research Challenges and Opportunities in Computational Social Network Analysis and Mining.*. Springer.

Books, Monographs, Compilations, Manuals

- *Alsmadi, I., & Al-Abdullah, M. (2019). Testing Assessment of Group Collaborations in OSNs Springer.
- *Alsmadi, I.. (2019). The NICE Cyber Security Framework Cyber Security Intelligence and Analytics Springer.
- *Alsmadi, I., Burdwell, R. A., Aleroud, A., Wahbeh, A., & AlOmari, A. (2017). *Information Security, a CBT approach* Springer.
- *Alsmadi, I., Karabatis, G., & Aleroud, A. (2017). *Information Fusion for Cyber-Security Analytics* Springer.

Al-Rabayah, W., Khasawneh, R., Abu-shamaa, R., & Alsmadi, I. M. (2016). *Uses of Social Media for Improved Customer Retention* IGI Global.

Refereed Proceedings

AlQuraish, R., Aleroud, A., Saifan, A., Alsmadi, M., & Alsmadi, I. (2021). Generating Optimal Attack Paths in Generative Adversarial Phishing. 2021 IEEE International Conference on Intelligence and Security Informatics (ISI).

#Omara, **A.**, ***Alsmadi**, **I.**, & Aleroud, A. (2021). Generative Adverserial Analysis of Phishing Attacks on Static and Dynamic Content of Webpages. 2021 IEEE Intl Conf on Parallel & Distributed Processing with Applications, Big Data & Cloud Computing, Sustainable Computing & Communications, Social Computing & Networking (ISPA/BDCloud/SocialCom/SustainCom).

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*#Martin, K., Alsmadi, I., Rahouti, M., & Ayyash, M. (2020). Combining Blockchain and Machine Learning to Forecast Cryptocurrency Prices. 2020 Second International Conference on Blockchain Computing and Applications (BCCA).

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- *#Wolfe, G., & #Elnashar, A. (2020). COVID-19 Candidate Treatments, a Data Analytics
 Approach. 2020 Fourth International Conference on Multimedia Computing, Networking and Applications (MCNA).
- Khamiseh, S., Alsmadi, I., & Al-Alaj, A. (2020). Deceiving machine learning-based saturation attack detection systems in SDN. 2020 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN).
- Al-Mubaid, H., & *Alsmadi, I. (2020). Analysis and Prediction of COVID-19 Timeline and Infection Rates. 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM).
- **#Thee**, J., *Alsmadi, I., & Al-khateeb, S. (2020). Pro-ISIS Tweets Analysis Using Machine Learning Techniques. 2020 IEEE International Conference on Big Data (Big Data).
- **#Tai**, J., ***Alsmadi**, I., Zhang, Y., & Qiao, F. (2020). Machine Learning Methods for Anomaly Detection in Industrial Control Systems. *2020 IEEE International Conference on Big Data (Big Data)*.
- *#Alhowaide, A., Alsmadi, I., & Tang, J. (2020). An Ensemble Feature Selection Method for IoT IDS. 2020 IEEE 6th International Conference on Dependability in Sensor, Cloud and Big Data Systems and Application (DependSys).
- Alsmadi, M., *Alsmadi, I., & Alwahsheh, H. (2020). URL Links Malicious Classification Towards Autonomous Threat Detection Systems. *International Conference on Emerging Technologies and Intelligent Systems*.
- AlRamahi, M., Alsmadi, I., & Davenport, J. (2020). Exploring hackers assets: topics of interest as indicators of compromise. *Proceedings of the 7th Symposium on Hot Topics in the Science of Security*.
- *Alsmadi, I., Lesli, N., & Kamhoua, C. (2019). Towards building actionable indicators of compromise based on a collaboration model. *Artificial Intelligence and Machine Learning for Multi -Domain Operations Applications*.
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- Albataineh, A., & *Alsmadi, I.. IoT and the risk of Internet Exposure: Risk Assessment Using Shodan Queries. *International Symposium on A World of Wireless, Mobile and Multimedia Networks (WoWMoM),* 2019.
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- *Alsmadi, I., & Mira, F. (2018). Website Security Analysis: Variation of Detection Methods and Decisions. Saudi Computer Society National Computer Conference.
- *Alsmadi, I., & Azab, M. (2017). A Model Based Approach for the Extraction of Network Forensic Artifacts. *Cybersecurity and Cyberforensics Conference (CCC)*.
- Cho, J., Alsmadi, I. M., & Xu, D. (2016). Privacy and Social Capital in Online Social Networks. *Global Communications Conference (GLOBECOM)*.
- *Alsmadi, I., #Munakami, M., & Xu, D. (2016). Model-Based Testing of SDN Firewalls: A Case Study. *Technology Student Association (TSA)*.
- *Alsmadi, I., & Aleroud, A. (2016). Identifying DoS Attacks on Software Defined Networks: A Relation Context Approach. *IEEE/IFIP Network Operations and Management Symposium*.
- *Alsmadi, I., Xu, D., & Cho, J. (2016). Interaction-Based Reputation Model in Online Social Networks. *International Conference on Information Systems Security and Privacy*.
- *Alsmadi, I., Khamaiseh, S., & Xu, D. (2016). Network Parallelization in HPC Clusters. 2016 International Conference on Computational Science and Computational Intelligence (CSCI).
- Al Mubaid, H., & *Alsmadi, I. (2014). Predicting Protein Subcellular Localization with Reduced Feature se. *Bioinformatics and Computational Biology*.
- Zarrad, A., *Alsmadi, I., & Al-Jaloud, A. (2014). Using Big Data Methods in Opinion Mining and Sentimental Analysis. 2nd International Workshop on Big Data and Social Networking Management and Security.
- Hanandeh, F., *Alsmadi, I., & Kwafha, M. M. (2014). Evaluating Alternative Structures for Prefix Trees. World Congress on Engineering and Computer Science.
- *#Khasawneh, R. T., Wahsheh, H. A., Al-kabi, M. N., & Alsmadi, I. M. (2013). Sentiment Analysis of Arabic Social Media Content: A Comparative Study. 1st International workshop on Big Data and Social Networking Management and Security.

Presentations of Refereed Papers

International

Alsmadi, I. M. & Aleroud, A. (2016). *Identifying DoS Attacks on Software Defined Networks : A Relation Context Approach.* IEEE/IFIP Network Operations and Management Symposium, Istanbul, Turkey.

Alsmadi, I. M., Xu, D., & Cho, J. (2016). *Interaction-Based Reputation Model in Online Social Networks*. International Conference on Information Systems Security and Privacy, Rome, Italy.

National

Alsmadi, I. M., Khamaiseh, S., & Xu, D. (2016). *Network Parallelization in HPC Cluster.* The 2016 international conference on computational science and computational intelligence, Las Vegas, Nevada.

Ho, J., Alsmadi, I. M., & Xu, D. (2016). *Privacy and Social Capital in Online Social Network*. Global Communications Conference (GLOBECOM), Washington, District of Columbia.

Non-Refereed Articles

Alsmadi, I. M., & Taylor, Z. W. (2019). Does Size Matter? An Evaluation of Institutional Internet Ranking Metrics. SSRN.

Ahmad, R., Alsmadi, I., & Al-Ramahi, M. (2023). Optimization of deep learning models: benchmark and analysis. *Advances in Computational Intelligence*.

Ahmad, R., Alsmadi, I., Alhamdani, W., & Tawalbeh, L. (2023). Zero-day attack detection: a systematic literature review. *Artificial Intelligence Review*.

Non-Refereed Proceedings

Basic or Discovery Scholarship

Alsmadi, I. M., & O'Brien, M. J. (2020). Toward Autonomous and Collaborative Information-Credibility-Assessment Systems. *Procedia Computer Science*, *168*, 118-122.

Grants

- 1. 2021: Alsmadi, I. M. Chancellor Research Initiative, Principal Investigator, Chancellor Research Initiative. Building from HPC cluster in TAMUSA, \$750,000
- 2018: Alsmadi, I. M. & Yang, J., JAGCoders: Build a Campus Wide Code Development Community, Principal Investigator, San Antonio SEED Grant.
- 3. 2018: Xu, D., Yeh, J., & Alsmadi, I. M., REU Site: Software Security, Co-Principal Investigator.
- 4. 2022: Alsmadi, I. M. Cc*Team:Sweeter-Southwest Expertise In Expanding, Training, Education & Research, Co-Principal Investigator, GOV-National Science Foundation (NSF).
- 5. 2018: Alsmadi, I. M., Lodgher, A., & Hurley, T., Study Online Visibility and Impact Factors of TAMU-SA Website in Comparison with A&M Institutions, Principal Investigator, Texas A&M, San Antonio Strategic Planning Seed Funds.
- 6. 2017: Xu, D. & Alsmadi, I. M., Developing a Software Artifact Repository for Software Assurance Education, Co-Principal Investigator.
- 7. 2019: Alsmadi, I. M. 10 Dell laptops for TAMUSA students to be used in training and competitions., Principal Investigator, Pryor Foundation.
- 8. 2017: Barton, K. A., Alsmadi, I., Burdwell, R., Green, C., Li, J., Zang, Wanyu; Vinaja, Robert Experiential Based Learning in a Cloud-based Cyber Security Lab: Integration with NICE CyberSecurity Framework, Co-Investigator, National IA Education & Training Programs.

Honors/Awards

Award

2019: Junior Scholarly Research or Artistic Achievement Award, Texas A&M University - San Antonio. 2023: Senior Scholarly Research or Artistic Achievement Award, Texas A&M University - San Antonio.