

# Sa'ed Rasmi Abed -2024



1 **Name & Rank:** Sa'ed Rasmi Abed, Professor.

## 2 Education

Degree	Discipline	Institution	Year
Ph.D.	Computer Engineering, Verification and VLSI Design	Concordia University, Montreal, Canada	2008
M.S.	Computer and Electrical Engineering	Jordan University of Science & Technology	1996
B.S.	Computer and Electrical Engineering	Jordan University of Science & Technology	1994

## 3 Academic Experience

Institution	Designation	Year/Period	FT/PT
Kuwait University	Professor	2025- Present	FT
Kuwait University	Associate Professor	2018 - 2025	FT
Kuwait University	Assistant Professor	2014 - 2018	FT
Hashemite University	Assistant Professor	2008 - 2014	FT
Concordia University	Teaching and Research Assistant	2003 - 2008	PT
King Faisal University	Lecturer	1997 - 2003	FT
Yarmouk University	Lab Administrator	1996 - 1997	FT
Jordan University of Science & Technology	Teaching Assistant	1994 - 1996	PT

4 **Non-Academic Experience:** None.

5 **Certifications / professional registrations:** None.

## 6 Membership in Professional Organization

- Association for Computing Machinery (ACM), USA, Member, 2009 - Present.
- Institute of Electrical and Electronic Engineer (IEEE), USA, Member, 2008 - Present.
- Member in The Jordanian Engineers Association (JEA), Jordan, Member, 1994 - Present.

## 7 Honors and Awards

- Distinguished Researcher Award 2023/2024, Kuwait University.
- Kuwait University Research Incentive Reward 2022 on the funded research project titled "Embedding and Detection Trojans Detection in Lightweight Cipher (QE 03/17)" and the paper titled "Run-time Monitoring and Validation using Reverse Function (RMVRF) for Hardware Trojans Detection," IEEE Transactions on Dependable and Secure Computing, Vol. 18, No. 6, pp. 2689-2704, Nov.-Dec. 2021, Print ISSN 1545-5971, Electronic ISSN 1941-0018, DOI: 10.1109/TDSC.2019.2961902, (Q1, IF: 7.329).
- Best Paper Award in the IEEE International Conference on Intelligent Data Science Technologies and Applications (IDSTA2023) for the paper titled: "Epileptic Seizure Detection using Novel CNN with Residual Connections".

## 8 Service Activities

- Accredited Faculty Associate of International Accreditation Organization (IAO): Entitled with the designation and the duties of an Evaluation Commissioner for the Middle Eastern region. Also, has the authority to perform Evaluation, Surveying and placing accreditation recommendation to the IAO from his entitled division, 2014-2020.

### Associate Editorial:

- International Journal of Cyber-Physical Systems (IJCPS), IGI Global Publication.

### Journal Editorial Board Member:

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- a. Member of Editorial Board in Journal of Computing and Applications (JCA), Current Engineering Letters, American Journal of Software Engineering and Applications (AJSEA), Journal of Computer Science (JCS), Computers Research Today (CRT), Information Engineering and Applied Computing, International Journal of Cyber-Physical Systems (IJCPS), Journal of Electrical Electronics Engineering (JEEE), Advances in Computers and Electronics and Engineering Press.

## **Conferences/Session Chair, Organizing and Steering:**

- a. (Steering Committee) Kuwait Collegiate Programming Contest (KCPC 2017 - 2023), Kuwait Science Club, Kuwait.
- b. (Local Organizing and Steering Committee) The first scientific meeting on information from an integrated perspective, College of Social Sciences, Kuwait University, Kuwait, Nov. 14-15, 2022.
- c. (Evaluation Committee) The Huawei Seeds for the Future Program, Kuwait Hall, KFAS, May 9-26, 2019.

## **Conferences Technical Program Committee (TPC) Member:**

- a. (TPC) The 3rd International Conference on Computer Engineering, Technologies and Applications (CETA 2024), April 22-24, 2024, Marmaris, Turkey.
- b. (JC) The 8th – 10th Engineering Competition for High School (Private and Governmental), Engineering and Petroleum College, Kuwait University, 2020-2021, 2021-2022, 2022-2023, April 20, 2024, respectively.
- c. (JC) The 3rd - 9th Kuwait Science & Engineering Competition, Kuwait Science Club, Kuwait, April 25, 2015, April 16, 2016, April 22, 2017, April 16, 2018, April 16, 2019, Jan. 9, 2021, April 22, 2023, respectively.
- d. (JC) The 10th – 13th International Invention Fair in the Middle East (IIFME), Kuwait, Jan. 28-31, 2018; Jan. 27-30, 2019; Feb. 16-19, 2020, Feb. 12-15, 2023, respectively.
- e. (TPC) The 2nd International Conference on Computer Engineering, Technologies and Applications (CETA 2023), May 8-10, 2023, Istanbul, Turkey.
- f. (TPC) The IEEE ICC International Conference on Big Data Computing Service and Machine Learning Applications (BDS 2022), San Francisco Bay Area (California), USA, 15-18 Aug., 2022.
- g. (IPC) The Blockchain & Cryptocurrency Congress (B2C' 2022), 16-18 November 2022, Barcelona, Spain.

## **Peer Review's Journals/Conferences:**

- a. Reviewer for Computers & Electrical Engineering Journal (Elsevier), International Journal of communications, Networks and System Sciences (IJCNS), International Journal of Intelligent Information Systems (IJIS), Information Security Journal: A Global Perspective (ISC)<sup>2</sup>, Journal of Engineering Research (JER), IET Computers & Digital Techniques, International Journal of Internet Technology and Secured Transactions (IJITST), Horizon Journal of Engineering, Technology and Innovation, Applied Soft Computing (ASOC), Multimedia Tool and Application, Soft Computing(SOCO), International Journal of Computing and Digital Systems (IJCDS) and International Journal of Cyber-Physical Systems (IJCPS).

## **9 Publications and Presentations (from past five years)**

- a. Sa'ed Abed, Ghadeer Aldamkhi and Imtiaz Ahmad, "Information Hiding using Approximate POSIT Representation," IET Image Processing, John Wiley & Sons Ltd on behalf of The Institution of Engineering and Technology, Sep 2024, Print ISSN: 1751-9659, Online ISSN: 1751-9667, DOI: 10.1049/ipr2.13244, (IF: 2.0).
- b. Reham Kablaoui, Imtiaz Ahmad, Sa'ed Abed and Mohamad Awad, "Network Traffic Prediction by Learning Time Series as Images," Engineering Science and Technology, an International Journal, Vol. 55, pp. 101754 (15 pages), Elsevier, July 2024, Online ISSN: 2215-0986, DOI: <https://doi.org/10.1016/j.jestch.2024.101754>, (Q1, IF: 5.7).
- c. Adnan Rashid, Ayesha Gauhar, Osman Hasan, Sa'ed Abed and Imtiaz Ahmad, "Formal Verification of Universal Numbers using Theorem Proving," Journal of Electronic Testing: Theory and Applications, Springer, Vol. 40, No. 3, pp. 329–345, Jun. 2024, Online ISSN: 1573-0727, Print ISSN: 0923-8174, DOI: <https://doi.org/10.1007/s10836-024-06123-9>, (IF: 0.90).
- d. Adnan Rashid, Ayesha Gauhar, Osman Hasan, Sa'ed Abed and Imtiaz Ahmad, "Formal Verification of Universal Numbers using Theorem Proving," Journal of Electronic Testing: Theory and Applications, Springer, Vol. 40, No. 3, pp. 329–345, Jun. 2024, Online ISSN: 1573-0727, Print ISSN: 0923-8174, DOI: <https://doi.org/10.1007/s10836-024-06123-9>, (IF: 0.90).
- e. Lamis Waleed, Imtiaz Ahmad and Sa'ed Abed, "A smart admission control and cache replacement approach in content delivery networks," Cluster Computing-The Journal of Networks, Software Tools and Applications, Vol. 27, Issue 3, pp. 2427–2445, Springer, June 2024, Print ISSN: 1386-7857, Online ISSN: 1573-7543, DOI: <https://doi.org/10.1007/s10586-023-04095-7>, (Q1, IF: 4.4).



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- f. Sa'ed Abed, Reem Jaffal and Bassam Jamil Mohd, "A Review on Blockchain and IoT Integration from Energy, Security and Hardware Perspectives," Vol. 129, Issue. 3, pp. 2079–2122, Springer, Apr. 2023, Print ISSN: 0929-6212, Electronic ISSN: 1572-834X, DOI: <https://doi.org/10.1007/s11277-023-10226-5>, (IF: 2.017).
- g. Mohammad Al-Shayegi, Sa'ed Abed and Silpa ChandraBhasi Sindhu, "Two-stage framework for diabetic retinopathy diagnosis and disease stage screening with ensemble learning," *Expert Systems with Applications*, Vol. 225, pp. 120206 (14 pages), Elsevier, April 2023, ISSN: 0957-4174, DOI: <https://doi.org/10.1016/j.eswa.2023.120206>, (Q1, IF: 8.665).
- h. Mohammad Al-Shayegi and Sa'ed Abed, "Lung cancer classification and identification framework with automatic nodule segmentation screening using machine learning," *Applied Intelligence*, Vol. 53, Issue 16, pp. 19724–19741, Springer, Aug. 2023, Electronic ISSN: 1573-7497, Print ISSN: 0924-669X, DOI: [10.1007/s10489-023-04552-1](https://doi.org/10.1007/s10489-023-04552-1), (IF: 5.019).
- i. Mohammad Al-Shayegi, Silpa ChandraBhasi Sindhu and Sa'ed Abed, "Viral Genome Prediction from Raw Human DNA Sequence Samples by Combining Natural Language Processing and Machine Learning Techniques," *Expert Systems with Applications*, Vol. 218, pp. 119641 (10 pages), Elsevier, May 2023, ISSN: 0957-4174, DOI: <https://doi.org/10.1016/j.eswa.2023.119641>, (Q1, IF: 8.665).
- j. Sa'ed Abed, Bassam Jamil Mohd, Thair Hayajneh and Mohammad H. Al Shayegi, "Hardware Trojan Detection for Lightweight Ciphers Implemented on FPGAs Using the Replay Algorithm," *International Journal of Circuit Theory and Applications*, Online ISSN: 1097-007X, Vol. 49, No. 11, pp. 3607-3629, Nov. 2021, John Wiley & Sons, Ltd., DOI: [10.1002/cta.3098](https://doi.org/10.1002/cta.3098), (IF: 2.038).
- k. Mohammad Al-Shayegi, Silpa ChandraBhasi Sindhu and Sa'ed Abed, "Early detection of diabetic foot ulcer from thermal images using bag of features technique," *Biomedical Signal Processing and Control*, Vol. 79, Part 2, Pages (104143), Jan 2023, Elsevier, ISSN: 1746-8094, DOI: <https://doi.org/10.1016/j.bspc.2022.104143>, (IF: 5.076).
- l. Adnan Rashid, Sa'ed Abed and Osman Hasan, "Formal Analysis of 2D Image Processing Filters using Higher-order-logic Theorem Proving," *EURASIP Journal on Advances in Signal Processing*, Vol. 2022, No. 1, Article No. 53 (18 pages), June 2022, Springer, Electronic ISSN: 1687-6180, DOI: <https://doi.org/10.1186/s13634-022-00882-3>, (IF: 1.759).
- m. Mohammad Al-Shayegi, Suood Abdulaziz Al-Roomi and Sa'ed Abed, "Efficient Hand Vein Recognition Using Local Keypoint Descriptors and Directional Gradients," *Multimedia Tools and Applications*, Vol. 81, No. 11, pp. 15687–15705, Springer, May 2022, Print ISSN 1380-7501, Online ISSN 1573-7721, DOI: <https://doi.org/10.1007/s11042-022-12608-6>, (IF: 2.313).
- n. Sa'ed Abed, Reem Jaffal, Bassam Jamil Mohd and Mohammad Al Shayegi, "An analysis and evaluation of lightweight hash functions for blockchain-based IoT devices," *Cluster Computing-The Journal of Networks, Software Tools and Applications*, Vol. 24, Issue 4, pp. 3065–3084, Springer, Dec. 2021, Print ISSN: 1386-7857, Online ISSN: 1573-7543, DOI: <https://doi.org/10.1007/s10586-021-03324-1>, (IF: 1.809).
- o. Anwar A. Esmaeel, Sa'ed Abed, Bassam J. Mohd and Abbas A. Fairouz, "POSIT vs. Floating Point in Implementing IIR Notch Filter by Enhancing Radix-4 Modified Booth Multiplier," *Electronics*, Vol. 11, No. 1, Article No. 163 (25 pages), Jan. 2022, ISSN 2079-9292, DOI: [10.3390/electronics11010163](https://doi.org/10.3390/electronics11010163), (IF: 2.397).
- p. Bassam Jamil Mohd, Sa'ed Abed, Thair Hayajneh and Mohammad H. Al Shayegi, "Run-time Monitoring and Validation using Reverse Function (RMVRF) for Hardware Trojans Detection," *IEEE Transactions on Dependable and Secure Computing*, Vol. 18, No. 6, pp. 2689-2704, Nov.-Dec. 2021, Print ISSN 1545-5971, Electronic ISSN 1941-0018, DOI: [10.1109/TDSC.2019.2961902](https://doi.org/10.1109/TDSC.2019.2961902), (Q1, IF: 7.329).
- q. Sa'ed Abed, Reem Jaffal, Bassam Jamil Mohd and Mohammad Al Shayegi, "Performance Evaluation of the SM4 Cipher based on FPGA Implementation," *IET Circuits Devices & Systems*, Vol. 15, No. 2, pp. 121-135, John Wiley & Sons Ltd on behalf of The Institution of Engineering and Technology, March 2021, Print ISSN: 1751-858X, Online ISSN: 1751-8598, DOI: [10.1049/cds2.12011](https://doi.org/10.1049/cds2.12011), (IF: 1.297).
- r. Areej A. Abdelaal, Sa'ed Abed, Mohammad H. Al-Shayegi and Mohammad Allaho, "Customized Frequent Patterns Mining Algorithms for Enhanced Top-Rank-K Frequent Pattern Mining," *Expert Systems with Applications*, Vol. 169, pp. 114530 (14 pages), Elsevier, May 2021, ISSN: 0957-4174, DOI: <https://doi.org/10.1016/j.eswa.2020.114530>, (IF: 6.954).
- s. Sa'ed Abed, Lamis Waleed, Ghadeer Aldamkhi and Khaled Hadi, "Enhancement in Data Security and Integrity using MinHash Technique," *Indonesian Journal of Electrical Engineering and Computer Science (IJECS)*, Vol. 15, No. 3, pp. 1759-1770, March 2021, ISSN: 2502-4752, e-ISSN: 2502-4760, DOI: [10.11591/ijeecs.v21.i3.pp1739-1750](https://doi.org/10.11591/ijeecs.v21.i3.pp1739-1750).
- t. Sa'ed Abed, Areej A. Abdelaal, Mohammad H. Al-Shayegi and Imtiaz Ahmad, "SAT-based and CP-based Declarative Approaches for Top-Rank-K Closed Frequent Itemset Mining," *International Journal of Intelligent Systems*, Vol. 36, No. 1, pp. 112-151, Jan. 2021, Online ISSN: 1098-111X, DOI: <https://doi.org/10.1002/int.22294>, (IF: 8.079).
- u. Sa'ed Abed, Adnan Rashid and Osman Hasan, "Formal Reasoning about Synthetic Biology using Higher-order-logic Theorem Proving," *IET Systems Biology*, Vol. 14, No. 5, pp. 271-283, The Institution of Engineering and Technology, Oct. 2020, Online ISSN: 1751-8857, Print ISSN: 1751-8849, DOI: [10.1049/iet-syb.2020.0026](https://doi.org/10.1049/iet-syb.2020.0026), (IF: 1.615).

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- v. Sa'ed Abed, Adnan Rashid and Osman Hasan, "Formal Analysis of Unmanned Aerial Vehicles using Higher-order-logic Theorem Proving," *Journal of Aerospace Information Systems*, Vol. 17, No. 9, pp. 481-495, Sep. 2020, ISSN 1940-3151, eISSN 2327-3097, DOI: <https://doi.org/10.2514/1.1010730>, (IF: 1.185).
- w. Sa'ed Abed, "Implementation of Edge Detection Algorithm using FPGA Reconfigurable Hardware," *Journal of Engineering Research (JER)*, Vol. 8, No. 1, pp. 179-197, March 2020, ISSN 2307-1877, Online ISSN: 2307-1885, DOI: <https://doi.org/10.36909/jer.v8i1.7956>, (IF: 0.620).
- x. Sa'ed Abed, Ali A. M. R. Behiry and Imtiaz Ahmad, "Error Metrics Determination in Functionally Approximated Circuits using SAT Solvers," *PLOS ONE, Public Library Science*, Vol. 15, No. 1, e0227745 (19 Pages), Jan. 2020, ISSN 1932-6203, DOI: <https://doi.org/10.1371/journal.pone.0227745>, (IF: 3.240).
- y. Sa'ed Abed, Suood Abdulaziz Al-Roomi and Mohammad Al-Shayegi, "Efficient Cover Image Selection based on Spatial Block Analysis and DCT Embedding," *EURASIP Journal on Image and Video Processing*, Springer International Publishing, ISSN 1687-5281, Vol. 2019:87 (14 pages), December 2019, DOI: <https://doi.org/10.1186/s13640-019-0486-8>, (IF: 1.474).

## **10 Recent Professional Development Activities**

- b. The first GCC Engineering Symposium "Toward an Inter-Professional Collaboration in Engineering Research for Sustainable Prosperity", October 29-31, 2023, Conference Center, Kuwait University, Kuwait.
- c. The 5th Cybersecurity Education and Research Conference (CERC21), 15-16 October 2023, Kuwait University, Kuwait.
- d. The 3rd Kuwait-imec Symposium in Partnership with EnergyVille: Advancing our Societies with Digital & Energy Transitions, 3-4 October 2023, The Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait.
- e. Developer and Youth Forum with Google Cloud in Kuwait, May 25, 2023, Sheikh Jaber Al Ahmed Cultural Center, Kuwait City, Kuwait.
- f. The 1st International Conference on Artificial Intelligence in Health Sciences Education & Healthcare Application, 29 Nov.-1 Dec., 2022, Health Sciences Center in Jabriya, Kuwait University, Kuwait.