Computer Engineering Department

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Professor Gheith Abandah

Summary of qualifications

Professor Abandah, a PhD and MSE graduate from the University of Michigan and BSc holder from the University of Jordan, boasts a multifaceted career as a Full Professor of Computer Engineering at the University of Jordan, the first President of Aqaba University of Technology, and General Coordinator of the Erasmus+ DeCAIR project for AI and Robotics curricula. With 40 years of experience spanning academia and industry, he excels in both teaching and research (AI, Arabic NLP, machine learning) with 66 publications, 1200+ citations, and an h-index of 20. His 15+ years of industry expertise encompass localization, military electronics, and product/project development, where he spearheaded technical teams as Design Engineer, Project Manager, Development Manager, VP Development, and General Manager. An active IEEE Senior Member, he co-founded the IEEE Jordan Section, chaired it for three terms, led the IEEE Region 8 Committee for Diversity, Equity, and Inclusion, and established the AEECT and JEEIT conferences, showcasing his dedication to service and innovation.

Personal information

Jordanian, married with six children, born in 1962 in Amman, Jordan.

Education

1995 - 1998   University of Michigan   Ann Arbor, MI

Ph.D. in Computer Science and Engineering

- Dissertation title is "Reducing Communication Cost in Scalable Shared Memory Systems" supervised by Professor Edward Davidson.

1993 - 1995   University of Michigan   Ann Arbor, MI

M.S.E. in Computer Science and Engineering

- GPA 8.3/9.0

1980 - 1985   University of Jordan   Amman, Jordan

B.Sc. in Electrical Engineering

- The top student in my class – 86.3%

1977 - 1980   Dirar Bin Al-azwar High School   Amman, Jordan

Tawjihi Certificate

- The top student in my school – 95.1%

| **Professional experience** | Sep 1998 – Present | The University of Jordan | Amman, Jordan |

Professor in the Computer Engineering Department

- Teaches graduate and undergraduate courses in digital logic, computer organization and design, computer architecture, advanced computer architecture, advanced parallel processing, embedded systems, microprocessors, software engineering, performance evaluation and modeling, computer networks, distributed systems, parallel architecture, parallel programing, object-oriented programming (Java and C++), machine learning, big data analytics, pattern recognition, and Computer Skills for Engineers (C++ and Python). He has major contributions in rising the department's QS Ranking to 301-350 and getting the ABET accreditation. Assistant Professor Sep 1998 – Dec 2009. Associate Professor Jan 2010 – Dec 2014. Professor since Jan 2015.

| Nov 2015 – Apr 2017 | Aqaba University of Technology | Aqaba, Jordan |

President

- Prof. Abandah, first president of this new private university, led the university to establish two new faculties: Pharmacy and Engineering, get accreditation for three new bachelor programs: Pharmacy, Civil Engineering, and Architecture Engineering, attract students from Jordan and abroad, open on-campus male and female dorms, and develop the university's cyber presence.

| Jan 2021 – Jan 2024 | The University of Jordan | Amman, Jordan |

General Coordinator

- Project Coordinator for Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), which is a project funded by Erasmus+ Capacity Building in the field of Higher Education program. Project Period: Jan 15, 2021 – Jan 14, 2024. The Project consortium consists of 10 partners from Jordan, Lebanon, Italy, Spain, Germany, and Greece. Budget: 850,108 Euro. http://decair.ju.edu.jo/

| Sep 2012 – Aug 2013 | The University of Jordan | Amman, Jordan |

Jul 2006 – Sep 2010

Chair of the Computer Engineering Department

- Prof. Abandah effectively expanded the resources of this department, including human resources, offices, labs, lecture rooms, and equipment. Has led the department's efforts to establish a master program in Computer Engineering and Networks and led the department's efforts to prepare for ABET accreditation. He has also organized other innovative activities such as lecture series and the National Technology Parade.

| Jan 2016 – Dec 2019 | IEEE | New York, NY, USA |

Jan 2011 – Dec 2011

Chair of the IEEE – Jordan Section

- Prof. Abandah was elected the chair of the Jordan Section of the Institute of Electrical and Electronics Engineers (IEEE) for three terms. In his first term, which was in the 2011 calendar year, Dr. Abandah expanded the membership by 29% and pioneered the conference series: IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT). His second term started in January 2016 and got recognition from IEEE Member Recruitment and Recovery Committee for achieving outstanding member recruitment and retention performance in the Jordan Section for the 2017 and 2018 membership years. In 2019, he started the series of IEEE Jordan

International Joint Conference on Electrical Engineering and Information Technology (JEEIT) in collaboration with Jordan Engineers Association and Al-Zaytoonah University of Jordan.

2007 – Nov 2015	Cisco Academy	Amman, Jordan

Manager of the Cisco Academy in the University of Jordan

- Has established the Cisco Academy of the University of Jordan and created the Networks Laboratory in the Computer Engineering Department. The academy offers the four CCNA courses and has graduated hundreds of students.

Sep 2010 – Sep 2011	Princess Sumaya Univ. for Tech.	Amman, Jordan

Visiting Associate Professor

- Sabbatical leave as a visiting associate professor in the Computer Engineering Department in Princess Sumaya University for Technology.

Jan 2009 – Sep 2009	Intrinsic Management Services	Amman, Jordan

General Manager

- Intrinsic Management Services focuses on Management and Organizational Maturity related services, enhancing its customers' capabilities in managing projects, programs, and portfolios to achieve their strategic results.

Jun 2000 – May 2006	SEDCO	Amman, Jordan

VP Development

- Supervised six development, quality assurance, and implementation groups working on several software development projects and products such as content management solutions, airport flight information systems, and printer arabization. Moreover, he led the software development process improvements in the company to achieve higher capability maturity levels. The Systems and Electronic Development FZCO (SEDCO) is a UAE company with regional offices in Amman, Riyadh, and Cairo.

May 1998 – Aug 1998	Hewlett-Packard Labs	Palo Alto, CA

Postdoc

- Rejoined the large group studying design alternatives for building the next generation of scalable shared-memory systems. He contributed to the group's effort to improve the performance of commercial applications on shared-memory multiprocessors.

May 1994 – Apr 1998	University of Michigan	Ann Arbor, MI

Graduate Student Research Assistant

- Worked on tuning Ford Motors' crash simulator on parallel computers, and on characterizing shared-memory applications and reducing the communication cost in scalable shared-memory systems.

Jan 1996 – Dec 1996	Hewlett-Packard Labs	Palo Alto, CA

Research Intern

- Was part of a large group studying design alternatives for building the next generation of scalable shared-memory systems. He built tools for characterizing shared-memory applications to support these efforts.

Jan 1992 – Aug 1993	University of Jordan	Amman, Jordan

Teaching Assistant and System Administrator

- Teaching assistant in the Electrical Engineering Department, and system

manager and administrator of the computer labs in the Faculty of Engineering and Technology.

Jun 1987 – Dec 1991   SEDCO   Amman, Jordan
Development Department Manager

- Worked in the development department of the International Systems and Electronic Development Company; SEDCO. First as a *design engineer*, then as the *development department manager*. He participated in the design, implementation and management of the company's development projects, including adding Arabic language capabilities to computers, terminals, and printers, developing special purpose ruggedized computers for the artillery, and other specialized systems. SEDCO was a Jordanian company at that time developing solutions for the local and regional markets.

Jun 1985 – May 1987   Royal Jordanian Air Force   Amman, Jordan
Draftee

- During his military service in the Royal Jordanian Air Force Technical School, he taught communications and electronics courses.

| Selected publications | Has published 22 journal papers, 32 conference papers, a book, a book chapter, and several technical reports and newspaper articles. Areas span machine learning, Arabic language processing, data analytics, electronic voting, shared memory systems, parallel applications and systems characterization, computer architecture, and computer networks. Google Scholar reports over 1200 citations for these publications with h-index of 20. |

Journal Articles

1. B. Saddar, R. Saddar, **G. Abandah**, I. Jafar, "Multi-Domain Machine Learning Approach of Named Entity Recognition for Arabic Booking Chatbot Engines Using Pre-Trained Bidirectional Transformers," The Jordanian Journal of Computers and Information Technology (JJCIT), Vol. 10, No. 1, DOI: 10.5455/jjcit.71-1694435791, Mar 2024, pp. 1-16.

2. **G. Abandah**, A. Suyyagh, M. Abdel-Majeed, "Transfer learning and multi-phase training for accurate diacritization of Arabic poetry", Journal of King Saud University - Computer and Information Sciences, Vol. 34, No. 6, Part B, https://doi.org/10.1016/j.jksuci.2022.04.005, June 2022, pp. 3744-3757.

3. **G. Abandah**, M. Khedher, M. Abdel-Majeed, H. Mansour, S. Hulliel, L. Bisharat, "Classifying and diacritizing Arabic poems using deep recurrent neural networks", Journal of King Saud University - Computer and Information Sciences, Vol. 34, No. 6, Part B, https://doi.org/10.1016/j.jksuci.2020.12.002, June 2022, pp. 3775-3788.

4. **G. Abandah**, A. Suyyagh, M. Khedher, "Correcting Arabic soft spelling mistakes using BiLSTM-based machine learning", International Journal of Advanced Computer Science and Applications (IJACSA), Vol. 13, No. 5, May 2022, pp. 815-829. http://dx.doi.org/10.14569/IJACSA.2022.0130594.

5. A. Abdel-Karim and **G. Abandah**, "On the Training of Deep Neural Networks for Automatic Arabic-Text Diacritization", International Journal of Advanced Computer Science and Applications (IJACSA), Vol. 12, No. 8, Aug 2021, pp. 276-286, https://doi.org/10.14569/IJACSA.2021.0120832.

6. **G. Abandah** and A. Abdel-Karim, "Accurate and Fast Recurrent Neural Network Solution for the Automatic Diacritization of Arabic Text", The Jordanian Journal of Computers and Information Technology (JJCIT), Vol. 6, No. 2, Jun 2020, pp. 103-121, https://www.proquest.com/scholarly-journals/accurate-fast-recurrent-neural-network-solution/docview/2672361995/se-2.

7. I. Saadeh and **G. Abandah**, "Parallel Implementations of S-Vote Electronic Voting Verification and Tallying Processes", Int'l Journal of Computers and Communications, Vol. 11, 2017, pp. 106-115.

8. M. Mohammed and **G. Abandah**, "Characterization of Shared-Memory Multi-Core Applications", Jordanian Journal of Computers and Information Technology (JJCIT), Vol. 1, No.2, Apr 2016, pp. 37-54.

9. A. Al-Haj, **G. Abandah**, and N. Hussein, "Crypto-based Algorithms for Secured Medical Image Transmission," IET Information Security, Vol. 9, No. 6, Nov 2015, pp. 365-373, DOI: 10.1049/iet-ifs.2014.0245.

10. **G. Abandah**, A. Graves, B. Al-Shagoor, A. Arabiyat, F. Jamour, and M. Al-Taee, "Automatic diacritization of Arabic text using recurrent neural networks," Int'l Journal on Document Analysis and Recognition (IJDAR), Springer, Vol. 18, No. 2, Jun 2015, pp. 183-197, https://doi.org/10.1007/s10032-015-0242-2.

11. T. Wahdan, **G. Abandah**, A. Seyam, A. Awwad, I. Shdaifat, "Tire type recognition through treads pattern recognition and DOT Code OCR," Ubiquitous Computing and Communication Journal (UBICC), Vol. 9, No. 1, Feb 2015, pp. 1481-1487.

12. A. Suyyagh and **G. Abandah**, "FPGA parallel recognition engine for handwritten Arabic words," Journal of Signal Processing Systems, Springer, Vol. 78, No. 2, Feb 2015, pp. 163-170, https://doi.org/10.1007/s11265-013-0848-x.

13. **G. Abandah**, F. Jamour, and E. Qaralleh, "Recognizing handwritten Arabic words using grapheme segmentation and recurrent neural networks," Int'l Journal on Document Analysis and Recognition (IJDAR), Springer, Vol. 17, No. 3, Sep 2014, pp. 275-291, https://doi.org/10.1007/s10032-014-0218-7.
14. **G. Abandah**, K. Darabkh, T. Ammari, and O. Qunsul, "Secure national electronic voting system," Journal of Information Science and Engineering, The Institute of Information Science, Vol. 30, No. 5, pp. 1339-1364, Sep 2014.
15. **G. Abandah** and F. Jamour, "A word matching algorithm in handwritten Arabic recognition using multiple-sequence weighted edit distances," International Journal of Computer Science Issues (IJCSI), SoftwareFirst, Vol. 11, No. 3, May 2014, pp. 18-26.
16. E. Qaralleh, **G. Abandah**, and F. Jamour, "Tuning recurrent neural networks for recognizing handwritten Arabic words," Journal of Software Engineering and Applications, Scientific Research Publishing, Vol. 6, No. 10, Oct 2013, pp. 533-542.
17. K. Darabkh, I. Iyad Jafar, G. Sukkar, **G. Abandah**, and R. Al-Zubi, "An improved queuing model for packet retransmission policy and variable latency decoders," IET Communications., Vol. 6, No. 18, IET, Dec 2012, pp. 3315-3328.
18. **G. Abandah** and T. Malas, "Feature Selection for Recognizing Handwritten Arabic Letters," Dirasat Engineering Sciences Journal, The University of Jordan, Vol. 37, No. 2, Oct 2010, pp. 242-256.
19. **G. Abandah** and M. Khedher, "Analysis of Handwritten Arabic Letters Using Selected Feature Extraction Techniques," Int'l J. of Computer Processing of Languages (IJCPOL), Vol. 22, No. 1, World Scientific, Mar 2009, pp. 49-73.
20. **G. Abandah** and N. Anssari, "Novel Moment Features Extraction for Recognizing Handwritten Arabic Letters," J. of Computer Science, Vol. 5, No. 3, Science Publications, Mar 2009, pp. 226-232.
21. **G. Abandah** and F. Khundakjie, "Issues Concerning Code System for Arabic Letters," Dirasat Engineering Sciences Journal, Vol. 31, No. 1, The University of Jordan, Apr 2004, pp 165-177.
22. **G. Abandah** and E. Davidson, "Characterizing Distributed Shared Memory Performance: A Case Study of the Convex SPP1000," IEEE Trans. Parallel and Distributed Systems, Vol. 9, No. 2, IEEE, Feb 1998, pp 206-216.

Conference Papers

1. R. Hasan and **G. Abandah**, "Correcting Wide-range of Arabic Spelling Mistakes Using Machine Learning and Transformers," 2023 International Conference on Information Technology (ICIT), Aug 2023.
2. B. Al-Rfooh, **G. Abandah**, and R. Al-Rfou, "'Fine-Tashkeel: Finetuning Byte-Level Models for Accurate Arabic Text Diacritization," in Proc. 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, May 2023.
3. L. O. Bani Khaled and, **G. A. Abandah**, "Analyzing and Forecasting the Weather Conditions in Jordan Using Machine Learning Techniques," in Proc. 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, May 2023.
4. M. Al-Fetyani, M. AlBarham, **G. A. Abandah**, A. Alsharkawi, and M. Dawas, "MASC: Massive Arabic Speech Corpus," in Proc. 2023 IEEE Spoken Language Technology Workshop (SLT), 2023.
5. R. E. Shtaiwi, **G. A. Abandah**, and S. Sawalhah, "End-to-End Machine Learning Solution for Recognizing Handwritten Arabic Documents," in Proc. The 13th International Conference on Information and Communication Systems, 2022.
6. M. Al-Qaraghuli, **G. A. Abandah**, and A. E. Suyyagh, "Correcting Arabic Soft Spelling Mistakes Using Transformers," in Proc. 2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, 2021.
7. M. M. Albaddawi and **G. A. Abandah**, "Pattern and Poet Recognition of Arabic

Poems Using BiLSTM Networks," in Proc. 2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, 2021.

8. A. K. Samara and **G. A. Abandah**, "Investigating Fast BiLSTM Neural Networks for Arabic Language Applications," in Proc. 2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, 2021.

9. A. N. Almajdoubah, **G. A. Abandah**, and A. E. Suyyagh, "Investigating Recurrent Neural Networks for Diacritizing Arabic Text and Correcting Soft Spelling Mistakes," in Proc. 2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, 2021.

10. S. M. AlAwawdeh and **G. A. Abandah**, "Improving the Accuracy of Semantic Similarity Prediction of Arabic Questions Using Data Augmentation and Ensemble," in Proc. 2021 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, 2021.

11. **G. A. Abandah** and A. S. Al-Hourani, "Challenges and Preprocessing Recommendations for MADCAT Dataset of Handwritten Arabic Documents," 2018 11th Int'l Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI 2018), Oct 11-13, 2018, Beijing, China.

12. I. A. Saadeh and **G. A. Abandah**, "Investigating Parallel Implementations of Electronic Voting Verification and Tallying Processes," 2017 European Conference on Electrical Engineering and Computer Science (EECS), Nov 17-19, 2017, Bern, Switzerland, pp. 70-75.

13. S. Alqudah, **G. Abandah**, A. Arabiyat, "Investigating Hybrid Approaches for Arabic Text Diacritization with Recurrent Neural Networks," in Proc. 2017 IEEE Jordan Conf. on Applied Electrical Engineering and Computing Technologies (AEECT 2017), Oct 11-13, 2017, Amman, Jordan, pp. 1-6.

14. A. Al-Haj, N. Hussein, and **G. Abandah**, "Combining Cryptography and Digital Watermarking for Secured Transmission of Medical Images," in Proc. 2016 2nd Int'l Conf. on Information Management (ICIM2016), May 7-9, 2016, London, England, pp. 40-46.

15. M. Khedher, **G. Abandah**, W. Anati, S. Ababneh, A. Zghoul, M. Hattab, "Effect of Topic on the Arabic Language Used on Social Networks and Mobile Phone Communications," in Proc. 2015 IEEE Jordan Conf. on Applied Electrical Engineering and Computing Technologies (AEECT 2015), Nov 3-5, 2015, The Dead Sea, Jordan.

16. M. Mohammed, **G. Abandah**, "Communication Characteristics of Parallel Shared-Memory Multicore Applications," in Proc. 2015 IEEE Jordan Conf. on Applied Electrical Engineering and Computing Technologies (AEECT 2015), Nov 3-5, 2015, The Dead Sea, Jordan.

17. **G. Abandah**, M. Khedher, W. Anati, A. Zghoul, S. Ababneh, M. Hattab, "The Arabic Language Status in the Jordanian Social Networking and Mobile Phone Communications," in 7th Int'l Conference on Information Technology (ICIT 2015), May 12-15, 2015, Amman, Jordan, pp. 449-456.

18. T. Wahdan, **G. Abandah**, A. Seyam, A. Awwad, and I. Shdaifat, "Tire Type Recognition through Treads Pattern Recognition and DOT Code OCR," in Second Jordanian Student Conference on Communication, Technology, and Management (JITB2014), May 18, 2014, Amman, Jordan.

19. I. Almasri, **G. Abandah**, A. Shhadeh, and A. Shahrour, "Universal ISA simulator with soft processor FPGA implementation," in Proc. 2011 IEEE Jordan Conf. on Applied Electrical Engineering and Computing Technologies (AEECT 2011), Dec 6-8, 2011, Amman, Jordan, pp. 221-226.

20. M. Olama, M. Aulama, A. Natsheh, and **G. Abandah**, "Arabic handwritten optical character recognition using hidden Markov models," in Proc. 2011 SPIE Defense, Security, and Sensing Multi-conference, Optical Pattern Recognition XXII, Vol. 8055, Apr 28-29, 2011, Orlando, Florida.

21. **G. Abandah** and F. Jamour, "Recognizing Handwritten Arabic Script through Efficient Skeleton-Based Grapheme Segmentation Algorithm," in 10th Int'l Conf. on Intelligent Systems Design and Applications (ISDA'10), Nov 29-Dec 1,

2010, Cairo, Egypt, pp. 977-982.

22. A. Shaout, **G. Abandah**, M. Johnson, and S-Y. Chang, "Routing Algorithms for Network-on-Chip in Tile-Based Multiprocessor Templates," in Proc. Mosharaka Int'l Conf. on Communications, Propagation and Electronics (MIC-CPE 2009), Feb 6-8, 2009, pp. 132-136, Amman, Jordan.

23. T. Malas, S. Taifour, and **G. Abandah**, "Toward optimal Arabic keyboard layout using genetic algorithm," in Proc. 9th Int'l Middle Eastern Simulation Multiconference (MESM 2008), Aug 26-28, 2008, pp. 50-54, Amman, Jordan.

24. K. Younis, B. Aldawood, **G. Abandah**, S. Alsisan, and J. Igual, "Automatic wireless monitoring of bird behavior," in Proc. 10th IASTED Int'l Conf. on Signal and Image Processing (SIP 2008), Aug 18-20, 2008, pp. 511-516, Kailua-Kona, Hawaii, USA.

25. **G. Abandah**, K. Younis, and M. Khedher, "Handwritten Arabic Character Recognition Using Multiple Classifiers Based on Letter Form," in Proc. 5th IASTED Int'l Conf. on Signal Processing, Pattern Recognition, and Applications (SPPRA 2008), Feb 13-15, 2008, pp 128-133, Innsbruck, Austria.

26. M. Khedher, **G. Abandah**, and A. Al-Khawaldeh, "Optimizing Feature Selection for Recognizing Handwritten Arabic Characters," in Proc. 2nd World Enformatika Congress (WEC'05), Feb 25-27, 2005, pp 81-84, Istanbul, Turkey.

27. M. Khedher and **G. Abandah**, "Arabic Character Recognition using Approximate Stroke Sequence," Third Int'l Conf. on Language Resources and Evaluation (LREC 2002), Arabic Language Resources and Evaluation - Status and Prospects Workshop, Jun 1, 2002, Las Palmas, Spain.

28. **G. Abandah** and E. Davidson, "Origin 2000 Design Enhancements for Communication Intensive Applications," in Proc. 1998 Int'l Conf. on Parallel Architecture and Compilation Techniques (PACT'98), Oct 12-18, 1998, pp 30-39, Paris, France.

29. **G. Abandah** and E. Davidson, "Effects of Architectural and Technological Advances on the HP/Convex Exemplar's Memory and Communication Performance," in Proc. 25th Ann. Int'l Symp. Computer Architecture (ISCA'98), Jun 27-Jul 1, 1998, pp 318-329, Barcelona, Spain.

30. **G. Abandah** and E. Davidson, "A Comparative Study of Cache-Coherent Nonuniform Memory Access Systems," in 12th Ann. Int'l Symp. High Performance Computing Systems and Applications (HPCS'98), May 20-22, pp 27, 1998, Edmonton, Canada.

31. **G. Abandah** and E. Davidson, "Configuration Independent Analysis for Characterizing Shared-Memory Applications," in Proc. 12th Int'l Parallel Processing Symposium & 9th Symp. On Parallel and Distributed Processing (1998 IPPS/SPDP), Mar 30-Apr 3, 1998, pp 485-491, Orlando, Florida, USA.

32. **G. Abandah** and E. Davidson, "Modeling the Communication Performance of the IBM SP2," in Proc. 10th Int'l Parallel Processing Symposium (IPPS'96), Apr 15-19, 1996, pp 249-257, Honolulu, Hawaii, USA.

Books

- M. Khedher, W. Anati, **G. Abandah**, A. Alzgoul, S. Ababneh, and M. Hattab, "Arabic Language in the Social Networking Forums and Mobile Phone Communications", the Jordan Academy of Arabic, Amman, Jordan, 2015.

Book Chapters

- **G. Abandah** and E. Davidson, "A Comparative Study of Cache-Coherent Nonuniform Memory Access Systems," High Performance Computing Systems and Applications, Ed. J. Schaeffer, Kluwer Academic Pub., pp 267-282, 1998.

Technical Reports

1. **G. Abandah**, K. Darabkh, T. Ammari, and O. Qunsul, "Secure national

electronic voting system: Pilot implementation," The University of Jordan, Oct 2013.

2. A. Suyyagh and **G. Abandah**, "FPGA Parallel Recognition Engine for Handwritten Arabic Words," The University of Jordan, August 2013.

3. **G. Abandah** and M. Khedher, "Printed and Handwritten Arabic Optical Character Recognition – Initial Study," A report on research supported by The Higher Council of Science and Technology, Amman, Jordan, Aug 2004.

4. **G. Abandah**, "Reducing Communication Cost in Scalable Shared Memory Systems," PhD Dissertation, University of Michigan, 1998.

5. **G. Abandah** and E. Davidson, "Configuration Independent Analysis for Characterizing Shared-Memory Applications," Tech. Rep. CSE-TR-357-98, University of Michigan, Jan 1998.

6. **G. Abandah**, "Characterizing Shared-Memory Applications: A Case Study of the NAS Parallel Benchmarks," Tech. Rep. HPL-97-24, HP Labs, Jan 1997.

7. **G. Abandah**, "Tools for Characterizing Distributed Shared Memory Applications," Tech. Rep. HPL-96-157, HP Labs, Dec 1996.

8. **G. Abandah** and E. Davidson, "Characterizing Shared Memory and Communication Performance: A Case Study of the Convex SPP-1000," Tech. Rep. CSE-TR-277-96, University of Michigan, Jan 1996.

9. **G. Abandah** and E. Davidson, "Modeling the Communication and Computation Performance of the IBM SP2," Tech. Rep. CSE-TR-258-95, University of Michigan, May 1995.

10. E. Boyd, **G. Abandah**, H. Lee, and E. Davidson, "Modeling Computation and Communication Performance of Parallel Scientific Applications: A Case Study of the IBM SP2," Tech. Rep. CSE-TR-236-95, University of Michigan, May 1995.

Current Masters Students	

- Moath Khalil, Translating Text from the Jordanian Dialect to Modern Standard Arabic Using Large Language Models
- Albaraa Al-Kilani, Using Drone Cluster and Machine Learning for Search and Rescue in Natural Disasters
- Rozan Younis, Automatic Diacritization of Arabic Text and Poetry Using Pre-trained Byte-to-Byte Language Models and Multi-Phase Training.
- Malak Smadi, Recognizing Texts of Jordanian Arabic Dialect Using Machine Learning Techniques.
- Alaa Al-Saweir, Recognizing Texts of Jordanian Arabic Dialect Using Machine Learning Techniques.
- Sarah Madi, Investigating Accurate Deep Learning Solutions for Recognizing Arabic Speech in the Jordanian Dialect.

Past Masters Students

- Raghda Hasan, Correcting Wide-range of Arabic Spelling Mistakes Using Machine Learning and Transformers, Mar 2023.
- Laith Bani-Khaled, Forecasting the Weather Conditions in Jordan Using Machine Learning Techniques, Aug 2022.
- Noor Ghazi Ali, Load Analysis and Forecasting of the Iraqi Electrical Distribution Grid Using Machine Learning Techniques, Aug 2022.
- Mohammad Shawabkeh, Investigating Machine Arabic Poetry Generation Using Generative Recurrent Neural Networks, Aug 2022.
- Mays Al-Qudah, A Hybrid Machine Learning Approach to Extract Sentiment from Arabic Tweets, May 2022.
- Batool Shdaifat, Applying Deep Learning and Transfer Learning for Classifying Images of Bacterial Colonies, Mar 2022.
- Boshra Al-Sadder, Using Machine Learning to Build Recognition Engine for Arabic Booking Chatbot, Jan 2022.
- Reem Shtaiwi, End-to-end machine learning solution for recognizing handwritten Arabic documents, Jan 2022.
- Shorouq Al-AlAwawdeh, Semantic Similarity of Arabic Questions using Machine Learning Solutions, Aug 2021.

- Mohammed Al-Qaraghuli, Correcting Arabic Soft Spelling Mistakes Using Deep Machine Learning and Transformers, Aug 2021.
- Abrar Samara, Performance Evaluation and Optimization for BiLSTM Neural Networks for Arabic Language Applications, Aug 2021.
- Ahmad Almajdoubah, Investigating Encoder-Decoder Recurrent Neural Network for Diacritizing Arabic Text and Correcting Spelling Mistakes, Aug 2021.
- Safaa Sawalhah, Towards End-to-End Machine Learning Solution for Recognizing Handwritten Arabic Documents, May 2020.
- Aya Al-Shamaileh, Machine learning Translation from Arab Vocal Improvisation to Instrumental Melodic Accompaniment, Dec 2019.
- Ahmad Al-Hourani, Preprocessing and Segmentation of Handwritten Arabic Documents for Writer-Independent Automatic Recognition, May 2017.
- Aiesha F. Al-maslam, Evaluation of Popular Multicore Design Alternatives using Configuration Dependent Analysis, May 2017.
- Saba Al-Quda, Hybrid Approach for Automatic Arabic Text Diacritization using Recurrent Neural Networks, Dec 2016.
- Alia Al-Hosban, Collaboration Genealogical Features with Social Networks, Dec 2015.
- Esraa Saadeh, Investigating Parallel Implementations of Electronic Voting Verification and Tallying Processes, May 2015.
- Alaa Arabiyat, Automatic Diacritization of Arabic Text, May 2015.
- Mohammed Sultan, Configuration Independent Characterization of Multi-Core Applications, Apr 2015.
- Noor Haj-Abdullah, Exploring Encryption and Watermarking Techniques for Secure Telmedicine, Aug 2013.
- Ashraf Suyyagh, Investigating Synthesis of Handwritten Arabic Word Recognition Engines on FPGAs, Aug 2011

Funded Projects

- Principal Investigator, Developing Applications to Correct Jordanian Spoken Arabic to Proper Language Using Machine Learning Techniques, Supported by Scientific Research and Innovation Support Fund, Jordan, JOD30,100, Mar 2023-Sep 2025. Research Spotlight
- General Coordinator, Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), Erasmus+ Capacity Building in Higher Education, €850,108, 2021-2024.
- Investigator, Smart Eco, German Academic Exchange Service (DAAD), 2023-2024.
- Investigator, Use of Artificial Intelligence and Machine Learning to Detect Dental Problems, Scientific Research and Innovation Support Fund, JOD17,800, 2021-2023.
- Investigator, Arabic Language in the Social Networking Forums and Mobile Phone Communications, Supported by the Jordan Academy of Arabic, 2013-2014.
- Principal Investigator, Building a System for Recognizing Arabic Handwritten Scripts, Supported by Deanship of Academic Research, the University of Jordan, Sep 2008-Aug 2010.
- Principal Investigator, Selecting and Evaluating Features for Recognizing Handwritten Arabic Characters, Supported by Deanship of Academic Research, the University of Jordan, May 2008-Aug 2008.
- Principal Investigator, Printed and handwritten Arabic optical character recognition – initial study, Supported by Higher Council of Science and Technology, Jul 2000-Apr 2003.

Conferences

- The 14th International Conference on Information and Communication Systems (ICICS 2023), **Keynote Speech**, Unlocking the Power of Large Language Models: Exploring Architectures, Evolving Trends, and Revolutionary Applications, Nov 2023.

- 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (jeeit.net), **Keynote Speech**, Monster Artificial Intelligence Models: Architecture, Trends, and Applications, May 2023.
- Arab Youth Engineers Forum (SIQ22), **Panelist** – Technology Trends and Engineering Specializations, Nov 27-29, 2022, Dead Sea, Jordan.
- Fostering Competitiveness of Engineering Sector through Global Accreditation Forum, organized by Jordan Engineers Association, **participant**, Apr 29-30, 2019, Amman Jordan.
- 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT 2019), **General Chair,** Apr 9-11, 2019, Amman, Jordan.
- The final conference of the Erasmus+ project: Modernization of Teaching Methodologies in Higher Education: EU Experience for Jordan and Palestinian Territory (METHODS), Mar 7, 2019, The University of Jordan, Amman, Jordan.
- The 8th International Platform on Integrating Arab e-Infrastructures in a Global Environment (e-AGE18), **Invited Speaker**: Communication Speeds, Dec 2-3, 2018, Amman, Jordan.
- The International Conference on Fractional Differentiation and its Applications (ICFDA 2018), **Conference Committee**, Jul 16-18, 2018, Amman, Jordan.
- The Fifth International Symposium on Innovations in Information & Communications Technology (ISIICT 2018), **Conference Committee**, Jun 25-26, 2018, Philadelphia University, Amman, Jordan.
- Third Vocational Rehabilitation and Accreditation Forum, organized by Jordan Engineers Association, **Speaker**, Dec 17, 2018, Amman Jordan.
- World Science Forum 2017, Nov 7-11, 2017, The Dead Sea, Jordan.
- 14th ACS/IEEE Int'l Conf. on Computer Systems and Applications AICCSA 2017, **Panelist**, Oct 30 to Nov 3, 2017, Hammamet, Tunisia.
- 2017 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), **General Chair,** Oct 11-13, 2017, Amman, Jordan.
- 2015 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), **Vice Chair,** Nov 3-5, 2015, The Dead Sea, Jordan.
- The First International Conference on Open Source Software Computing (OSSCOM 2015), Sep 10-13, 2015, German Jordanian University, Jordan.
- Egyptian Engineering Day 2015, **Invited Participants and Speaker**, Aug 1-Sep 2, 2015, Cairo, Egypt.
- The Fifth International Symposium on Innovations in Information & Communications Technology (ISIICT 2014), **Conference Committee**, 22-24 April 2014, Philadelphia University, Amman, Jordan.
- 2013 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), **Steering Committee**, Dec 3-5, 2013, Amman, Jordan.
- The 1st International Conference and Exhibition on Applications of Information Technology in Developing Renewable Energy processes and Systems (IT-DREPS 2013), **Judge** in the 9th Information Technology Students Activity Fair, May 2013, Amman, Jordan.
- The 8th Jordanian International Electrical and Electronics Engineering Conference (JIEEEC 2013), **Session Chair**, Amman, Apr 2013, Amman, Jordan.
- The 9th Int'l Symposium on Mechatronics and its Applications (ISMA'13), Apr 2013, Amman, Jordan.
- The 3rd International Conference on Information and Communication Systems (ICICS 2012), **Steering Committee**, Apr 2012, Irbid, Jordan.
- 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), **General Chair,** Dec 6-8, 2011, Amman, Jordan.

- The 7th Jordanian International Electrical and Electronics Engineering Conference (JIEEEC 2011), **Session Chair**, Amman, Apr 2011.
- The 2nd International Conference on Information and Communication Systems (ICICS 2011), **Steering Committee**, Irbid, May 2011.
- The 10th Int'l Conf. on Intelligent Systems Design and Applications (ISDA'10), **Research Paper Presentation**, Nov 29-Dec 1, 2010, Cairo, Egypt.
- Mosharaka Int'l Conf. on Communications, Propagation and Electronics (MIC-CPE 2009), **Session Chair**, Feb 2009, Amman.
- The 5th IASTED Int'l Conf. on Signal Processing, Pattern Recognition, & Applications (SPPRA 2008), **Research Paper Presentation and Session Chair**, Feb 2008, Innsbruck, Austria.
- The 9th Int'l Middle Eastern Multi-conference on Simulation and Modeling (MESM 2008), Aug 2008, Amman.
- The 5th Int'l Multi-Conference on Systems, Signals and Devices (IEEE SSD'08), Jul 2008, Amman.
- The 1st Graduate Studies Research Conference, **Conference Committee**, 2007, The University of Jordan.
- The 1st IEEE Int'l Design and Test Workshop (IDT 2006), Nov 2006, Dubai.
- **Organized a workshop** to discuss the results of the research project "Automatic Recognition of Arabic Printed and Handwritten Text" supported by the Higher Council of Science and Technology, Mar 2005, Amman.
- The 5th Jordanian Int'l Electrical and Electronics Engineering Conference, **Conference Committee and Session Chair**, Oct 2003, Amman.
- The 4th Jordanian Int'l Electrical and Electronics Engineering Conference, **Session Chair**, Apr 2001, Amman.
- Parallel Computers Conference, 1999, Al al-Bayt University.
- The 25th Int'l Conf. on Parallel Architecture and Compilation Techniques (PACT'98), **Research Paper Presentation**, Oct 1998, Paris, France.
- The 25th Annual Int'l Symposium on Computer Architecture (ISCA'98), **Research Paper Presentation**, Jun 1998, Barcelona, Spain.
- The 12th Ann. Int'l Symposium on High Performance Computing Systems and Applications (HPCS'98), **Research Paper Presentation**, May 1998, Edmonton, Canada.
- The 12th Int'l Parallel Processing Symposium (IPPS'98), **Research Paper Presentation**, March 1998, Orlando, Florida, USA.
- The 10th Int'l Parallel Processing Symposium (IPPS'96), **Research Paper Presentation**, April 1996, Honolulu, Hawaii, USA.

Attended courses	

- Advanced Kinematics and Control in Robotics, University of Stuttgart in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), in JUST, 10 hrs., Oct 25-26, 2023.
- NLP and Reinforcement Learning, University of Granada in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 20 hrs., Oct 2-5, 2023.
- Advanced Robotics, University of Pisa in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 20 hrs., June 19-23, 2023.
- Computational Intelligence, University of Granada in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), in UJ, 14 hrs., Mar 10-11, 2023.
- Fundamentals of Robotics, University of Pisa in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), in UJ, 20 hrs., Feb 19-23, 2023.
- Mobile Robots and Applications on Control, University of Stuttgart in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 13 hrs., Sep 21-23, 2022.
- Computer Vision Crash Course 2022, A PhD course organized within the PhD Program in Computer Science and Systems Engineering, Università degli Studi

di Genova in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 20 hrs., July 12-20, 2022.

- Deep Learning: A Hands-on Introduction 2022, A PhD course organized within the PhD Program in Computer Science and Systems Engineering, Università degli Studi di Genova in the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 20 hrs., July 12-20, 2022.
- Fundamentals of Deep Learning, Nvidia Deep Learning Institute, 8 hrs., May - Jun 25, 2022.
- Advanced Data Science, University of Granada, In the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 24 hrs., May 23-27, 2022.
- Introduction to Data Science, University of Granada, In the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 24 hrs., Mar 16 – Apr 6, 2022.
- Diversity, Equity, and Inclusion, IEEE Region 8, 3 hrs., Mar 27, 2022.
- Introduction to Machine Learning, University of Genoa, In the framework of the ERASMUS+ Program, Project: Developing Curricula for Artificial Intelligence and Robotics (DeCAIR), 15 hrs., Feb 2 – Mar 1, 2022.
- The Virtual Higher Education Reform Week, Jordan National Erasmus+ Office, Jun 2021.
- Code of Conduct, General Data Protection Regulation (GDPR), IEEE Compliance Training Courses, Feb 2019.
- How to Write a Competitive Proposal, National Erasmus+ Office – Jordan, Nov 26, 2018, Geneva Hotel, Amman.
- Moodle: Your Choice to Enhance Learning, the University of Jordan, Aug 8, 2018.
- Horizon 2020 Information Day, Fairmont Hotel, Amman, Apr 18, 2018.
- Interactive Learning and Increasing Student Engagement, the University of Jordan, Feb 15, 2018.
- Python 3 Tutorial Course, SoloLearn, Nov 2017.
- Fundamentals of Management, by Dave Nagy of University of California, Irvine, Coursera, Sep 2015.
- Securing Digital Democracy, by J. Alex Halderman, University of Michigan, Coursera, Oct-Nov 2014.
- IEEE Teacher In-Service Program (TISP) - Middle East Training Workshop, Jun 13-14, 2014, Dubai
- Cisco Certified Network Associate (CCNA), Cisco Networking Academy, Jul 5- Aug 29, 2009
- Multi-core Programming, Intel Software College, Oct 7-9, 2008
- Statistical Pattern Recognition, Jordan University of Science and Technology, Apr 2007
- Innovative Teams that C.A.R.E., Person-to-Person, 2005
- Leadership Skills, AMIDEAST, Aug 2005
- Enterprise Application Architecture, SoftACT, Aug 2005
- NLP for Business Excellence, AMIDEAST, Mar 2005
- Developing Microsoft ASP.NET Web Applications using Visual Studio.NET, CompuBase, Dec 2002
- Performance Appraisal Systems, Jordan United States Business Partnership, Jan 2001
- Introduction to SW-Capability Maturity Model, Software Engineering Institute, Sep 2000
- Workshop on Information Technology in Higher Education, JUST, 1999
- Diversity and the American Experience: A Case Study of Boston, Fulbright, Jul 1994
- Computer Communications and Multimedia Applications, Jordan University

of Science and Technology, Jun 1993

- Oracle Case Relational System Design Course, Oracle, Jun 1989
- Basic Instructional Techniques, Royal Jordanian Air Force School, Feb 1986

Professional activities	

- Chair and member of IEEE Region 8 Committee for Diversity, Equity and Inclusion, 2021-2024, Chair since May 2022.
- Board of trustees, Al Hussein Technical University, Since Oct 2023.
- Member of IEEE Diversity and Inclusion Committee, 2023.
- Participant in 2022 IEEE Region 8 Strategy Retreat, 10-11 Sep 2022, Geneva, Switzerland.
- Proctor in IEEEXtreme Programming Competitions, 2009 through 2022.
- Editorial Board, The Jordanian Journal of Computers and Information Technology (JJCIT), 2018-2021.
- Associate Editor, Journal of Information and Communication Technology (JICT), 2017-present.
- Gave a course in Machine Learning and Deep Learning, Training for the Purpose of Employment Program, Electrical Engineers Division, Jordan Engineers Association, Apr-Aug 2020.
- Board member of the School of Engineering and Chair of the School Curricula Committee, the University of Jordan, 2018-2019.
- Participated in Cluster Meeting on Stakeholders' Involvement in Erasmus+, National Erasmus+ Office in Jordan, the Dead Sea, Jordan, 23 Sep 2018.
- Chair and member of 13 committees formed by the Higher Education Accreditation Commission for setting accreditation guidelines and for computer engineering programs accreditation, 2005-2018.
- Judging Panel Member, 2015/2016 Yarmouk University Best Master Thesis and Doctoral Dissertation Competition, May 2017.
- Volunteer with Injaz Business Leaders Campaign (BLC), Nov 2, 2016, Eighth Secondary School for Girls, Aqaba.
- Judging Panel Member, 2015 Abdul Hameed Shoman Arab Researchers Award, Aug 2016.
- Chair of the organizing committee of IEEE Amman Metro Area Workshop, Mar 6-7, 2016.
- Invited Speaker in the IEEE Jordanian Student Branches Congress (JSBC 2015), Speech titled "Best Practices to Run IEEE Student Branch," Hashemite University, May 24, 2015.
- Participated in the First Focus Event on strategic ICT Priorities, MED-Dialogue Project, Promoting ICT Dialogue and Cooperation with The MPC towards HORIZON 2020, Tunisia, May 6-7, 2015.
- Member and chair of 20 masters degree discussion committees, 2003-2015.
- Academic Proficiency Exam, Engineering Committee, 2015.
- Research Proposals Reviewer, Qatar National Research Fund (QNRF), 2015.
- Judging Panel Member, Hamdan Bin Mohammed Award for Smart Government, Dubai, Nov 2014.
- Team member in the project "Arabic Language in the Social Networking Forums and Mobile Phone Communications", the Jordan Academy of Arabic, 2013-2014.
- Judging Panel Member, Hamdan Bin Mohammed Award for Smart Government, Dubai, Nov 2013.
- Member of the steering committees of six National Technology Parades 2009-2014.
- Mentoring the IEEE Student Branch in organizing innovative activities such as Technology Catch Up and SHE, and Google Ambassadors in activities such as the Engineering Scientific Competitions 1 and 2.
- Member of the steering committees of the Universities Robotics Championships, 2013.
- Athens Information Technology (AIT) Queen Rania Al Abdullah Scholarships

committee member, 2013.

- Main organizer of a series of lectures in computer, electrical, and mechatronics engineering in the Faculty of Engineering and Technology, 2006 - 2011.
- ICT Sector Committee, Setting Research Priorities in Jordan for the Coming 10 Years Project, the Higher Council for Science and Technology (HCST), 2009/2010.
- Board of trustees, The Arab Academy for Banking and Financial Sciences, 2009.
- Chair of the nomination committees for IEEE – Jordan Section in 2007 and 2009.
- Chair of the Technical Judging Committee for Jordan's First Lego League Championship, Dec 2008.
- Chair of the organizing committee of the National Technology Parade 2008.
- Member of the Certificates Equaling Committee in the Ministry of Higher Education, 2003 – 2009; vice chair since 2007.
- Gave a short course titled "How to Test Hardware and Software for Year 2000 Readiness", April 1999, The University of Jordan.
- Developed a program to calculate the prayers times, 1986.

Presentations	

- Large Artificial Intelligence Models: Architectures and Trends, Keynote Speech, DSR Conference 2023, Deanship of Scientific Research, Yarmouk University, Jun 2023.
- Megatrends in AI and Robotics for the Next Decade, Annual Meeting of IEEE - Jordan Section, Mar 2023.
- Starting and Managing Research Teams Training Workshop, Deanship of Scientific Research, Al Albayt University, Jan 2023.
- Starting and Managing Research Teams Training Workshop, Deanship of Scientific Research, The University of Jordan, Dec 2022.
- Public Security Directorate, "Creative Thinking and Security Leadership" course, The reality and future of artificial intelligence and security, Jan 11, 2022.
- AI for Arabic Language: Deep Learning Applications, Association of Arab Universities, Zoom recording, Nov 2, 2021.
- Modern Artificial Intelligence and Machine Learning, The Scientific Day of Hijjawi Faculty, Yarmouk University, Oct 26, 2021.
- Artificial Intelligence and Machine Learning Applications, University of Bahrain, College of Engineering, Postgraduates 2020 Forum, YouTube, Dec 24, 2020.
- AI and Machine Learning with Arabic Language Processing Examples, Jordan Engineers Association, Sep 23, 2020.
- AI and Approaching Singularity, Jordan Society of Communications and Computer Engineers, Jordan Engineers Association, Dec 12, 2019.
- AI and Processor Advancements, Scientific Day about the Fourth Industrial Revolution Technologies, Jordan Engineers Association, May 4, 2019.
- Communication Speed, Keynote Speech, IEEE Jordan ComSoc Congress, Amman Chamber of Commerce, Nov 24, 2018.
- Machine Learning and Arabic NLP, Arabic NLP Seminar, Princess Sumaya University for Technology, Nov 14, 2018.
- Artificial Intelligence, Invited Speaker, Scientific Day, Faculty of Engineering, The Hashemite University, Jul 17, 2018.
- Artificial Intelligence, Invited Speaker, Alumni Day, Faculty of Engineering, The University of Jordan, Jun 26, 2018.
- The Rise of Artificial Intelligence, Invited Speaker, Faculty of Engineering, Princess Sumaya University for Technology, Mar 1, 2018.
- The Rise of Artificial Intelligence, Keynote Speech, The Second Annual IISE University of Jordan Regional Conference, Feb 17, 2018.
- Recent Processor Advances Enabling Disruptive Technologies, Keynote

- Speech, IEEE – Jordan Section General Meeting, May 9, 2017.
- Automatic Diacritization of Arabic Text, The Ninth Arabic Day, Petra University, Mar 22, 2015.
- Electronic Voting: For Secure and Efficient Elections in Jordan, organized by IEEE - Jordan Section in PSUT, Nov 2, 2010.
- Handwritten Arabic Optical Character Recognition Research, in the Natural Languages Processing Workshop organized by IEEE – Jordan Section's Computer Society Chapter, The University of Jordan, Oct 12, 2010.
- Web Search Engines: How They Work and How to Exploit Their Benefits, organized by Jordan Computer Society in cooperation with IEEE - Jordan Section in METS 09, Nov 2009.
- Modern Multicore Processors and their Programming, organized by Jordan Computer Society in cooperation with IEEE - Jordan Section in METS 08, Dec 2008.
- Modern and Future Processors, organized by the Faculty of Engineering and Technology in the University of Jordan, Feb 2007.
- Higher Performance in Modern Intel Processors, organized by IEEE Jordan Section, August 2002.
- High Performance through Parallel Processing, organized by the Computer and Internet Club in the University of Jordan, Oct 1998.

Professional memberships
- Jordan Joint Chapter of the IEEE Computer and Computational Intelligence Societies, Secretary 2010 – 2014, Chair 2022-2025.
- Chair of IEEE – Jordan Section, 2011, 2016-2017, 2018-2019
- Vice chair of IEEE Jordan Section, 2014-2015
- Counselor, IEEE Student Branch in the University of Jordan, 2009 - 2015
- Advisor, IEEE Jordan Section Women in Engineering Affinity Group, 2012 – 2013
- General Secretary of founding executive committee of IEEE – Jordan Section, 2000-2001
- Arab Robotics and AI Association since 2019
- IEEE Computational Intelligence Society since 2019
- IEEE Robotics and Automation Society since 2018
- IEEE Computer Society since 1993
- IEEE since 1993, senior member since 2007
- Jordan Engineers Association since 1985

Skills

Programming Languages: C, Python (Keras, TensorFlow, Scikit-learn), Visual C++, Visual Basic, Java, HTML, Lisp, SQL, Fortran, Matlab, and Assembly (MIPS, x86, PIC, 6809, 6502, Z80, 8051).

Operating Systems: Microsoft Windows 95–10, DOS, Unix, and Linux.

Applications: Microsoft Word, Excel, PowerPoint, Expression, FrontPage, Access, Visio, and Project, LaTeX, FrameMaker, and AutoCAD.

Hardware: PCB design, and worked on many computers including PC, Mac, IBM RS/6000 Workstation, IBM SP1/SP2, and Convex SPP-1000.

Parallel Programming: Open MP, MPI, MPL, PVM, and Pthreads.

Languages

I am fluent in English and Arabic (spoken and written).

Hobbies

My hobbies include table tennis, jogging, swimming, cycling, reading, and writing.

Honors and awards	**Distinguished Visitor Program**, IEEE Computer Society, 2024-2026. - Appreciation Award for Remarkable Contributions Towards Advancing IEEE – Jordan Section's Activities and Performance Over the Past 20 Years, IEEE Jordan Section, Handed over by the IEEE President and CEO, Aug 29, 2023. - Nominated to IEEE Region 8 Volunteer Award, IEEE Jordan Section, 2020. - Active Volunteer Award, IEEE – Jordan Section, Mar 9, 2020. - IEEE Certificates of recognitions for achieving outstanding member recruitment and retention performance in Jordan Section for 2017 and 2018. - Listed in the top 5% highly cited researchers in the University of Jordan, since August 2015. - Supervised the graduation project that won the third prize in the Innovation and Technologies for People with Disabilities, the Eighth National Technology Parade, Project Title: Low-cost Speech-operated Electric Wheelchair, 2015. - Best paper award, Computers and Communications track, the Second Jordanian Student Conference on Communication, Technology, and Management (JITB2014), Paper Title: Tire Type Recognition through Treads Pattern Recognition and DOT Code OCR, May 18, 2014, Amman, Jordan. - Supervised the graduation project that won the second prize in the Industrial Systems track, the National Technology Parade, Project Title: Tire Text and Geometry Detection, 2013. - Supervised the graduation project that won the first prize in the Artificial Intelligence track, the National Technology Parade, Project Title: Recognition of Handwritten Arabic Words, 2010. - Supervised the graduation project that won the second prize in the Electrical Engineering category, Jordan Engineers Association, Project Title: Blind Student Study Helper, 2010. - Supervised four projects that won prizes in the National Technology Parade 2008 that were carried out in cooperation with Sedco, Estarta, and Optimiza. - Supervised the graduation project that won the first prize in the Electrical Engineering category, Jordan Engineers Association, Project Title: Superscalar MIPS Instruction Set Implementation with High-Level Language Compiler Simulation and Benchmarking, 2004. - Supervised the graduation project that won the third prize in the Electrical Engineering category, Jordan Engineers Association, Project Title: Analyzing features of Hand-Written Single Arabic Characters, 2004. - Graduate student research assistantships, 1995-1998. - Fulbright Fellowship, 1993-1995. - Ideal Soldier Prize, military training, 1985. - Royal prize granted to the first of the Electrical Engineering Department graduates, 1985. - Five grants for distinguished academic performance, 1981-1985. - Qualified to participate in the Students' Future Leaders Program in the University of Jordan, 1984. - First in my high school class, 1980.
Research Profiles	- Research Group Website: https://research.ju.edu.jo/research/groups/MLALP - ORCID: https://orcid.org/0000-0002-0672-809X - Google Scholar: https://scholar.google.com/citations?user=OJVXjmEAAAAJ - Research Gate: https://www.researchgate.net/profile/Gheith_Abandah - Researcher ID: http://www.researcherid.com/rid/C-3473-2015 - Scopus: https://www.scopus.com/authid/detail.uri?authorId=6603480730
References	Available upon request