Mohammad Abdel-majeed

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Work Experience

June 2021 - Present **Associate Professor**, *Computer Engineering Department*, The University of Jordan.

2016 - 2021 **Associate Professor**, *Computer Engineering Department*, The University of Jordan.

Education

2002–2007 **BSc Computer Engineering**, *University of Jordan*, Jordan.
Cumulative GPA:3.85.

2008–2010 **Master in Computer Engineering**, *University of Southern California*, USA.
Cumulative GPA: 4.0.

2010–2016 **PhD in Computer Engineering**, *University of Southern California*, USA.
Cumulative GPA: 3.93.
Thesis title: Demand Based Techniques to Improve the Energy Efficiency of the Execution Units and the Register File in General Purpose Graphics Processing Units.
Advisor: Murali Annavaram.

Industry Experience

05-08/2013 **Summer Intern**, *NVIDIA*, Santa Clara.

Worked on functional full-chip testing for the interactions between the CPU,GPU engines, and different memory hierarchies in the next generation GPUs.

02-08/2015 **Research Intern**, *Intel Labs*, Hillsboro.

Developed a cross layer infrastructure that is used to explore new techniques for improving the memory efficiency of the java applications. During this work I worked under the supervision of Chris Wilkerson.

Teaching and Mentoring

University of Jordan

CPE461 Digital Electronics
CPE462 Digital Electronics Lab
CPE231 Digital Logic
CPE234 Digital Logic Lab

CPE101 Computer Skills for Engineers

IE201 Technical Writing

CPE311 Computer Application Lab

CS100 Computer Skills for Engineers

University of Southern California

EE450 Computer networks, *Teaching Assistant,* Spring '12, Spring '11, Fall '12

EE653 Advanced Computer Architecture, *Teaching Assistant,* Spring '14

EE653 Advanced Computer Architecture, *Invited Lecturer,* Spring '14

EE109 Introduction to the Embedded Systems, *Teaching Assistant,* Spring '15

EE355 Software Design for Electrical Engineers, *Teaching Assistant,* Spring '16

Directed-Research Mentored many undergraduate and graduate students during my PhD. This includes exposing them to the main areas in the GPU power efficiency and reliability and how to evaluate the proposed techniques using architecture simulators.

Publications

JKSUCI '22 Gheith A. Abandah, Ashraf Suyyagh , **Mohammad R. Abdel-Majeed** *Transfer learning and multi-phase training for accurate diacritization of Arabic poetry*. Accepted for publication in Journal of King Saud University - Computer and Information Sciences, 2022

ISRITI '21 F.Jubair, N. Salim, O.Alkaradsheh, Y.Hassonah, R.Saifan, **M.Abdel-Majeed** *Sentiment Analysis for Twitter Chatter During the Early Outbreak Period of COVID-19*, 4th International Seminar on Research of Information Technology and Intelligent Systems (ISRITI), 2021

JKSUCI '20 Gheith A. Abandah, Mohammed Z. Khedher , **Mohammad R. Abdel-Majeed** , Hamdi M. Mansour , Salma F. Hulliel , Lara M. Bisharat. *Classifying and diacritizing Arabic poems using deep recurrent neural networks*. Accepted for publication in Journal of King Saud University - Computer and Information Sciences, Dec 2020

PLDI '20 H. Kim, J. Zeng, Q. Liu, **M. Abdel-Majeed**, J. Lee, and C. Jung *Compiler-Directed Soft Error Resilience for Lightweight GPU Register File Protection*, ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), London, United Kingdom, June 2020.

Turkish **M.Abdel-Majeed**, T.Almousa, M.Alsalman and A.Yosf, *Sketic: Machine Learning Based Digital Circuit Recognition Platform*, TURKISH JOURNAL OF ELECTRICAL ENGINEERING and COMPUTER SCIENCES(2020), Vol. 28 Issue 4, p2030-2045.

Integration'19 K.Matam, **M.Abdel-Majeed**, M.Annavaram, *Efficient Automatic Parallelization of a Single GPU Program for a Multiple GPU System*, Integration,In Press

Integration'18 **M.Abdel-Majeed**, W.Dweik,*Low overhead online periodic testing for GPGPUs*, Integration,Volume 62, 2018, Pages 362-370, https://doi.org/10.1016/j.vlsi.2018.04.015.

CAE'18 R.Saifan , W.Dweik, **M.Abdel-Majeed**,*A machine learning based deaf assistance digital system*, Computer Applications in Engineering Education,Volume 26, Pages 1008-1019, doi = 10.1002/cae.21952.

HPCA '17 **M. Abdel-Majeed,** A.Shafaei, H.Jeon, M.Pedram, M.Annavaram, *Pilot register file: Energy Efficient Register File for GPUs*. In Proceedings of the 23rd International Symposium on High Performance Computer Architecture (HPCA), 2017

ICS '16 **M.Abdel-Majeed,** D.Wong, J.Kuang, M.Annavaram. *Origami: Folding Warps for Energy Efficient GPUs*. In Proceedings of the ACM International Conference on Supercomputing (ICS), 2016

DSN '15 **M. Abdel-Majeed,** W. Dweik, H.Jeon and M.Annavaram. *Warped-RE: Low-Cost Error Detection and Correction in GPUs*. In proceedings of the 45th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), 2015.

DSN '14 W. Dweik,**M. Abdel-Majeed** and M.Annavaram. *Warped-Shield: Tolerating Hard Faults in GPGPUs* In proceedings of the 44th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), 2014.

MICRO '13 **M. Abdel-Majeed,**D. Wong and M.Annavaram. *Warped gates: gating aware scheduling and power gating for GPGPUs.* In Proceedings of the 46th Annual IEEE/ACM International Symposium on Microarchitecture, MICRO-46, 2013.

HPCA '13 **M. Abdel-Majeed,**and M.Annavaram. *Warped register file: A power efficient register file for GPGPUs* . In Proceedings of the 2013 IEEE 19th International Symposium on High Performance Computer Architecture (HPCA), 2013.

ISQED '12 **M. Abdel-Majeed,** Mike Chen, and M.Annavaram. *A case for 3D stacked analog circuits in high-speed sensing systems*. In Proceedings of the 2012 13th International Symposium on Quality Electronic Design (ISQED), 2012.

Professional Activities

Invited Reviewer

TVLSI '16 IEEE Transaction on Vary Large Scale Integration Systems

TPDS '16 Transactions on Parallel and Distributed Systems

TCAS '16 IEEE Transactions on Circuits and Systems

'17 Integration, the VLSI Journal

'18 IEEE Transactions on Reliability

TPDS '18 IEEE Transactions on Parallel and Distributed Systems

TPDS '19 IEEE Transactions on Parallel and Distributed Systems

NTICT '19 4th International Conference on New Trends in Information and Communications Technology Applications

JPDC '20 Journal of Parallel and Distributed Computing

EAAI '20 Journal of Engineering Applications of Artificial Intelligence

EAAI '22 Journal of Engineering Applications of Artificial Intelligence

Program Committee Member

NTIT '17 New Trends in Information Technology

ISIICT '18 The Fifth International Symposium on Innovation in Information and Communication Technology

IPDPS '19 33rd IEEE International Parallel and Distributed Processing Symposium

JEEIT '19 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)

ICCD'22 The 40th IEEE International Conference on Computer Design (ICCD)

Honors and Awards

- Part of the team who received the fund of 850,000.00 Euros from Erasmus to establish AI and Robotics Programs in Jordan
- Honorable Mention Poster Award, 4th Annual Ming Hsieh Research Festival.
- Received 2011 USC PhD Student Summer Research Institute Fellowship.
- Received four years Fellowship from University of Jordan to complete my higher studies (2008-2012).
- Scored 1000 out of 1000 in the CCNA certificate exam.

Managerial Positions

- **December 2021 - Present** Chair of the Computer Engineering Department at the University of Jordan
- **June-2020-December 2021** Vice Chair of the University Requirements Coordination Office at JU
- Co-founder and Director of the shAI club(Initially named as JU AI Club) in 2/2020 (left the club on 8/2021)