

RAJAA ALQUDAH

Amman, Jordan

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EDUCATION

Ph.D., Computer Engineering (2011)

Syracuse University, Syracuse, NY, USA

GPA 3.97

Dissertation: "State-Based Techniques For Designing, Verifying And Debugging Message-Passing Systems"

M.S., Computer Engineering (2007)

Northeastern University, Boston, MA, USA

GPA 3.79

Thesis: "Beacons on Localization On the Effects of Multiple for Wireless Sensor Networks"

B.S., Computer Engineering (2003)

GPA: 86.0 % [Ranked second among 92 students in my batch]

Yarmouk University, Irbid, Jordan

PROFESSIONAL EXPERIENCE

Assistant Professor
(2019 – Current)

Department of Computer Engineering

King Abdallah II School of Engineering, Princess Sumaya University of Technology, Amman, Jordan

- Courses taught: Digital Logic Design, Computer Architecture and Telecommunications and Computer Networks
- Technical adviser for multiple senior design graduation projects.
- Executive director and Board member of PEEK (PSUT Engineering Entrepreneurship Kickstarter)
- Serving as a member of Faculty Search Committee, Fall 2019, Spring 2020.
- Mentor of Developer Student Club and Women In Engineering affinity group (WIE)

Pre-silicon Solutions
Architect
(2018 – 2019)

Software and Services Group, Intel Corporation, Hillsboro, OR, USA

- Engage, deliver and manage pre-silicon enabling capabilities to accelerate customer software development.
- Working directly with Intel customers to shift-Left customer's software development and reduce time to market (TTM) by delivering software simulation virtual platform solutions and secure customer requirements.
- Define and drive critical foundational capabilities and innovations to eliminate simulation barriers.
- Lead and drive ecosystem engagements to enhance joint customers and partners' simulation capabilities.

Assistant Professor
(2017 – 2018)

Department of Electrical Engineering and Computer Science

Shiley School of Engineering, University of Portland, Portland, OR, USA

- Courses taught: EE231 - Logic Design, CS203 - Introduction to Computer Science, EGR110 - Introduction to Engineering.
- Developing a new senior-level elective course in pre-silicon systems integrations and validation.
- Technical adviser for multiple senior design graduation projects.
- Planned the curriculum changes needed for the addition of Computer Engineering minor to Shiley School of engineering.
- Planned Computer Engineering Summer Camp to attract students and increase enrollments in Electrical Engineering department.
- Participating in the Electrical Engineering Department ABET Assessment and Evaluation Process review.

Senior Software Engineer
(2014 – 2017)

Platform Engineering Group, Intel Corporation, Hillsboro, OR, USA

- Used agile development methodologies to deliver leading edge, complete and integrated System-on-Chip pre-silicon platforms to enable pre-silicon validation and development
- Lead a team of engineers to conduct infrastructure enhancements in platform release flows, automation, and debug-ability
- Enabled secure operating system boot with production boot flow and system level UCIS with HW-SW co-validation
- Enabled system integration and debug on HW and SW platform components
- Implemented standardized processes and continuous improvements of processes and supporting tools

System Validation Engineer
(2011 – 2014)

Intel Corporation, Austin, TX, USA

- Conducted intensive research on usage-based Operating System validation techniques
- Developed spec-based validation tools to enable validating Intel next generation server, client and Atom System-on-Chip platforms.
- Implemented robust development process to follow by all the validation tools users. This process includes coding convention, code review, continuous integration, release for execution and support.

Teaching Assistant
(2008 - 2011)

Department of Computer Engineering, Syracuse University, Syracuse, NY, USA

- Assisted in teaching undergraduate/graduate level software courses:
 - Algorithms and Data structure
 - Object-Oriented Design
 - Windows Programming
- Responsibilities included: holding office hours, grading and assisting in preparing exams and homework, preparing and presenting exams review sessions and lecturing as needed.

Graduate Research Associate
(Summer 2009)

Department of Mechanical Engineering, Syracuse University, Syracuse, NY, USA

- Project: Dashboard Visualizer for IBM Corporation
Designed and developed a visualization framework that gives users the ability to apply advanced visualization and analysis techniques to their data using JAVA.

Lab Instructor and Teaching Assistant
(2003- 2005)

Department of Computer Engineering, Yarmouk University, Jordan

- Taught the junior-level labs:
 - Digital Design, Hardware Design, Data Structures, Microprocessors, Operating Systems, C++ Programming Language and Database Management Systems.

Computer Engineer Intern
(Summer 2002)

Systems and Electronic Development FZCO (SEDCO), Amman, Jordan

- Developed an ASP /SQL Server web application that allows any employee in the company to view the contact information and status (in/out) of any other employee as long as updating his/her own information

PUBLICATIONS

Working Journal Papers

- Rajaa Alqudah, Amjed Al-Mousa and Ayman Faza, “Probabilistic Modeling and Simulation of Drivers' Behavior using Fuzzy-Based Decision-Making on a Highway System”. Submitted to International Journal of Transportation Science and Technology
- Amjed A. Al-Mousa, Rajaa Alqudah, Yazan Abu Hashyeh, and Omar Z. Alzaibaq, “A systematic Comparison between Data Augmentation and Synthetic Data as means for Enhancing Wafermap Defect Classification”, submitted to Computers in Industry Journal.
- Amjed Al-Mousa, Rajaa Alqudah, and Ayman Faza, ” SimToll: A Highway Toll, Lane Selection, and Traffic Modeling Dataset”, submitted to Information Sciences Journal

- Alqudah, R. and Chen, R., “Techniques for Designing and Verification of State-Based Message-Passing Systems”. To be submitted: ACM Transactions on Software Engineering and Methodology.

Publications

- Alqudah R. and Basagni S., “On the Effects of Multiple Beacons on Localization for Wireless Sensor Networks”, Wireless Telecommunication Symposium, California, 2008.
- Al-Momani, E., Borgesen, P., Khasawneh, M., Sammakia, B., Alqudah, R. and Meilunas, M., “A Tool for Predicting Reliability of Lead-Free Soldered Electronic Packages under Thermal Cycling Conditions”. International Conference on Soldering & Reliability (ICSR), May 2010, Toronto, Canada.
- Al-Momani, E., Lu, S., Rawabdeh, I. and Alqudah, R., “Applying a Hybrid Approach for Optimizing Sheet Metal Blanking Process”, IIE Annual Conference and Expo 2010, June 5-9, 2010, Cancun, Mexico.
- Emad Al-Momani, Ahmad Mayyas, Ibrahim Rawabdeh and Rajaa Alqudah, “Modeling Blanking Process Using Multiple Regression Analysis and Artificial Neural Networks”, Journal of Materials Engineering and Performance, August 2012, Volume 21, Issue 8, pp 1611-1619.
- Alqudah R., Telang G. and Vu H., “Pre-silicon H-FPGA Platform”, Intel Design and Test Technology Conference, August 2015
- Alqudah R., Mohammadi A., and Desikan V., “Pre-silicon Platforms Bring Up and Enablement”, Validation Summit, August 2016
- Alqudah R. Dehmlow E., Kuchibhatla V. and Peskov S. “Shift-left the BMC Ecosystem via Simics”, Intel Design and Test Technology Conference, 2019
- E. S. Al-Momani, S. M. S. Harb, K. Tripician and R. Alqudah, "Electrical Performance Evaluation of a Gripper-Type Socket Technology," *2019 IEEE 21st Electronics Packaging Technology Conference (EPTC)*, Singapore, Singapore, 2019, pp. 1-4, doi: 10.1109/EPTC47984.2019.9076728.
- S. M. S. Harb, E. S. Al-Momani, B. Yu and R. Alqudah, "Socket Signal Integrity Assessment for High Speed LPDDR4 Memory Test Applications," *2019 IEEE 21st Electronics Packaging Technology Conference (EPTC)*, Singapore, Singapore, 2019, pp. 1-3, doi: 10.1109/EPTC47984.2019.9076717.

HONORS AND RECOGNITION

- Ranked second among 92 students in Computer Engineering undergraduate batch at Yarmouk University with Excellent Designation
- Received a scholarship from Yarmouk University to pursue my M.S. and Ph.D. in the USA
- Honored three times for highest GPA at Yarmouk University.
- Intel PVE Division award for outstanding effort driving validation content development, peer review, regression & release process, improving quality & reuse across SoCs
- Intel AVE Excellence award in recognition of excellence in collaboration on the first-ever tool release before Power-On Exit to enable quality test content.
- Intel MVE Division award for the outstanding effort in defining, developing, and implementing integrated models to enable pre-silicon HW/SW Readiness towards Power-on.
- Named an associate member of the Phi Beta Delta society of international scholars
- Named an Associate member of the Phi Kappa Phi (collegiate honor society)

WORKSHOPS AND TRAINING

- National Effective Teaching Institute Workshop (NETI), January 2018
- University of Portland Teaching Workshop, September 2017
- Learning Machine Learning, Intel Corporation, October 2016
- Intel Agile and Lean Development Workshop, Intel Corporation, June 2015
- UEFI and EDK II Base Training, Intel Corporation, December 2014
- Simics User Training, Wind River, Intel Corporation, April 2013
- Intel x86 Architecture Programming, Training by Mindshare, Intel Corporation, August 2012
- Effective Meetings, Intel Corporation, February 2012
- x86 Assembly Language Programming, Intel Corporation, November 2011
- Introduction to Research, Syracuse University, September 2010

PROFESSIONAL SKILLS

Programming language: C/C++, C#, Java, Visual Basic, Shell Scripts, Python

Operating Systems: Microsoft Windows, DOS, Sun Solaris (UNIX), Linux Kernel, Android OS

Database: Microsoft SQL Server 7 and 2000, Oracle 8i

Network Simulation: Network Simulator NS2

Model Checking Tools: SPIN

Software Simulators: Simics

Others: ASP .Net, Matlab, LaTeX, UML, HTML, Git, Rally

SCIENTIFIC AND PROFESSIONAL MEMBERSHIPS

- IEEE (Institute of Electrical & Electronics Engineers, USA)
- Society of Women Engineers (SWE)
- N² Women (Networking-Networking Women)