Omar Hiari

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Shttps://www.linkedin.com/in/omarhiari/

EDUCATION

Oakland University

Ph.D., Electrical and Computer Engineering Dissertation Topic: "System-on-Chip (SoC) Based Diverse Redundancy for Automotive Reliability."

Oakland University

M.Sc., Electrical and Computer Engineering

Princess Sumaya University of Technology B.Sc., Electronics Engineering

EXPERIENCE

German Jordanian University

Assistant Professor - Computer Engineering Department

- Active in the area of researching embedded hardware implementations of Space Modulation Techniques. Lab website - http://ewiot.gju.edu.jo
- Teaching various graduate and undergraduate courses including computer architecture, computer networks, digital electronics, hardware/software co-design, computer interfacing, embedded system engineering, and C programming.

Intel Corporation

Functional Safety Platform Architect - Internet of Things Group

- Leading and contributing to the development of new functional safety architectures for the automotive and industrial markets.
- o Engaging with vertical IOTG teams and end customers, to define and obtain feedback on fault-tolerant, real-time architectures based on Intel Architecture microprocessors.
- Analyzing and applying hardware and software redundancy techniques to mitigate hardware and software faults.
- Conducting in-depth analysis of failure modes, error detection and error reporting functionality.
- Driving architecture definition, system architecture assumptions, and technical requirements for both hardware and software.
- Supporting business and strategic planning teams to complete product definition.
- o Supporting engineering teams during implementation of architecture requirements and resolving architecture issues found in design and verification.

Magna Electronics Inc.

Lead Engineer - Image Vision Systems

- Managing system level engineering activities for a multiple location global team developing automotive image vision systems.
- Leading and managing product development projects with challenging timelines and complex planning tasks; projects include automotive rear back up cameras and image processing units for automotive surround view multi camera systems.
- Managed the customer technical interface for design status updates, design & field issue resolution, product release support, and providing input to vehicle level system designs.
- Led production releases and coordination with manufacturing teams.

April 2015 **Rochester**, MI

Rochester, MI

June 2006

Amman, Jordan June 2004

Feb 2015 - Nov 2015

Auburn Hills, MI

Aug 2011 - Sept 2013

Chandler, AZ

Amman, Jordan

Feb 2016 - Present

Continental Automotive Systems

Systems Technical Project Leader - Hybrid Electric Vehicles

- Managed system level engineering activities including software, hardware, mechanical, and testing for a
 project team developing battery management electronic systems.
- Led and managed product development of complex high power embedded systems projects with challenging timelines and complex planning tasks.
- Defined and tracked system, customer, and safety requirements.
- Supervised production activities and ensured quality and high voltage cleanliness standards are met.
- Main technical interface to customer and coordinator of product releases for mass produced ECUs.

Technical Project Leader - Seat Control Systems

- Led teams of six to ten members on four successful projects for seat control systems in multiple locations including Mexico, Germany, and 3 U.S. locations. Projects' volumes ranged from 500,000 to 1.5 million units per year with estimated revenue of 1*millionto*15million per year.
- Achieved excellent customer feedback and high quality targets on all projects.
- o Managed development activities, production releases, and development budgets at a project-level.
- Created detailed technical design work plans, conducted resource planning, developed internal and external project action item lists, and ensured proper product specification generation.
- o Coordinated with suppliers deliverables and sample builds including prototype part procurement.
- o Mentored team members and ensured coordination between centralized groups and project teams.

Project Hardware Lead Engineer - Seat Control Systems

- Managed and supervised regional project hardware team and assumed full responsibility for product application hardware for mass-produced seat control modules averaging volumes of more than 1 million units per year.
- o Communicated directly with customers and manufacturing about hardware design issues.
- o Performed estimates for complex task duration to support schedule development.
- Supported Technical Project leader with quotation estimates for hardware designs.
- Mentored and coached hardware team members.
- Maintained responsibilities as Hardware Design Engineer in addition to new responsibilities.

Hardware Design Engineer - Seat Control Systems

- Development of electrical control units including schematic creation, circuit design and testing, layout support, EMC testing, FMEAs, worst case analysis, Design Verification and Product Validation testing, and overseeing production runs.
- Identified and resolved critical problems with field returns and test prototypes by applying problem-solving skills that prevented future occurrences after launch.
- Identified significant opportunities in bill of material and production process that reduced the overall cost of the product with savings varying from several cents to several dollars.
- o Reviewed customer specifications and documentation and provided support for software engineering.

AWARDS & CERTIFICATIONS

- Functional Safety Certified Engineer Development IEC 61508 TuV Nord June 2015
- Functional Safety Certified Automotive Engineer ISO 26262 TuV Nord June 2015
- Project Management Professional (PMP) Certified Project Management Institute (PMI) September 2012
- Conti Excellence Award Continental Automotive Systems June 2011

SUPERVISED MASTER THESES

- Thesis Title: Embedded Hardware Implementations of Space Modulation Techniques Student Name: Samer Alshaer - Defended Aug 2019
- Thesis Title: Embedded Hardware Implementation of Channel Coding for Space Modulation Techniques - Student Name: Faris Shahin - Ongoing

Dearborn, MI

Dec 2010 - Aug 2011

Troy, MI

Mar 2006 - Sep 2007

Sep 2007 - Mar 2009

Mar 2009 - Dec 2010

Troy, MI

Troy, MI

GRANTS & FUNDED PROJECTS

Abdul Hameed Shoman Foundation

• Fund Amount: 15,000 JOD

o Title: Hardware Implementations Reliability Analysis of Space Modulation Techniques

GJU Deanship of Graduate Study and Scientific Research

• Fund Amount: 54,400 JOD

• Title: Implementation of index modulation transmitters for IoT wireless applications

ADMINISTRATIVE SERVICE

School Council Member, German Jordanian University

School of Electrical Engineering and Information Technology

- Participated in the administration of the academic activities in school of electrical engineering and information technology.
- Involved in the processing and recommendation of new faculty appointments in the school of electrical engineering and information technology.
- Reviewing and approving new academic programs and study plans in the school of electrical engineering and information technology.

Department Council Member, German Jordanian University

Computer Engineering Department

- Participated in the administration of the academic activities in the department of computer engineering.
- o Constructing and revising the study plans in the department of computer engineering.
- Involved in the process of establishing new labs and enhancing the existing labs in the department of computer engineering.
- Involved in the processing and recommendation of new faculty appointments in the department of computer engineering.

Scientific Research and Graduate Studies Council Member, German Jordanian University

Computer Engineering Department

- Reviewing and processing the students' applications for the graduate programs in the school of electrical engineering and information technology.
- Reviewing and processing the theses proposals submitted by the graduate students in the school of electrical engineering and information technology.
- Reviewing and processing the research proposals submitted by the faculty members in the school of electrical engineering and information technology.

COMMUNITY SERVICE

Industry Liaison Officer School of Electrical Engineering and Information Technology German Jordanian University	Mar 2015 - Present
Program Coordinator EDU-JORDAN EU Sponsored Educational Scholarships for Disadvantaged Jordanians	Jun 2016 - Jun 2017
Program Facilitator and Project Member Open Med Erasmus+ Capacity building project to raise awareness and facilitate the adoption of Open Educational Resources (OER) and Open Educational Practices (OEP) in the Arab Mediterranean countries	Sept 2017 - Jul 2019
Member of the Steering Committee and Reviewer <i>The 10th National Technology Parade</i>	May 2017 - Jun 2017

Nov 2018 - Nov 2019

Dec 2016 - June 2019

Nov 2016 - Nov 2018

Feb 2016 - Present

Oct 2017 - Present

Reviewer	
The 9th National Technology Parade	May 2016 - Jun 2016
Mentoring Volunteer	
RBK Accelerated Software Engineering Code Bootcamp for refugees	Feb 2015 - May 2015
Reviewer	
SAE International	Jun 2017 - Present
Reviewer	
IEEE Access	Aug 2017 - Nov 2017
Reviewer	
IEEE Systems Journal	Dec 2017 - Present
International Organization and Technical Program Committees' Member	
Advances in Engineering Technology & Sciences Multi-Conference (ASET 2019) Website: http://www.aset.hct.ac.ae/aset2019/internet-of-things-mechatronics-and -their-applications/conference-committees/	Jul 2018 - Jun 2019
Member of Technical Program Committee International Conference on Promising Electronic Technologies (ICPET 2018) Website: https://icpet.net/?page_id=42	May 2018 - Aug 2018

PUBLICATIONS

O. Hiari, F. Shahin, S. Alshaer, and R. Mesleh, "Hardware Implementation of Space Shift Keying on a Xilinx Zynq Platform," in *International Conference on Broadband Communications, Networks and Systems*, pp. 267–275, Springer, Cham, 2018.

O. Hiari and R. Mesleh, "Hardware designs and analysis for variant receive space modulation techniques," *Transactions on Emerging Telecommunications Technologies*, p. e3545, 2018.

O. Hiari and R. Mesleh, "Hardware implementation of space modulation techniques using Simulink RF Blockset," in *Advanced Communication Technologies and Networking (CommNet)*, 2018 International *Conference on*, pp. 1–7, IEEE, 2018.

O. Hiari and R. Mesleh, "Impact of RF–Switch Insertion Loss on the Performance of Space Modulation Techniques," *IEEE Communications Letters*, vol. 22, no. 5, pp. 958–961, 2018.

R. Mesleh, A. Al-Khatib, and O. Hiari, "Hardware Implementation of Generalized Space Modulation Techniques Using Simulink RF Blockset," in *International Conference on Broadband Communications*, *Networks and Systems*, pp. 247–256, Springer, Cham, 2018.

R. Mesleh, O. Hiari, and A. Younis, "Generalized space modulation techniques: Hardware design and considerations," *Physical Communication*, vol. 26, pp. 87–95, 2018.

O. Hiari and R. Mesleh, "A reconfigurable SDR transmitter platform architecture for space modulation mimo techniques," *IEEE Access*, vol. 5, pp. 24214–24228, 2017.

R. Mesleh, O. Hiari, A. Younis, and S. Alouneh, "Transmitter design and hardware considerations for different space modulation techniques," *IEEE Transactions on Wireless Communications*, vol. 16, no. 11, pp. 7512–7522, 2017.

O. Hiari and R. Mesleh, "Hardware Design and Analysis for Generalized Receive Space Modulation Techniques," *IEEE Communications Letters*, pp. 1–1, 2019.

O. Hiari, R. Mesleh, and A. Al-Khatib, "A System Simulation Framework for Modeling Space Modulation Techniques," *IEEE Systems Journal*, pp. 1–12, 2019.

O. Hiari and R. Mesleh, "Single RF chain transmitter implementing space modulation," Apr. 2018.

O. Hiari, D. e. D. I. Abou-Tair, and I. Abushaikha, "An IoT-Based Virtual Addressing Framework for Intelligent Delivery Logistics," in *Information Science and Applications 2017* (K. Kim and N. Joukov, eds.), Lecture Notes in Electrical Engineering, pp. 698–705, Springer Singapore, 2017.

O. Hiari, W. Sadeh, and O. Rawashdeh, "Towards single-chip diversity TMR for automotive applications," in 2012 IEEE International Conference on Electro/Information Technology, pp. 1–6, May 2012.