Koosha Marashi

Contact Information

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Education

8/2012–Present **Ph.D. in Computer Engineering** (anticipated graduation date: 5/2017)
Missouri S&T, Rolla, MO
Thesis: *Modeling and Analysis of Cyber-Physical Systems: Dependability of Critical Infrastructures*
Advisor: Dr. Sahra Sedigh Sarvestani
GPA: 3.83/4.0

9/2006–2/2011 **B.S. in Electrical Engineering**
Isfahan University of Technology, Isfahan, Iran
GPA: 15.61/20

Work Experience

9/2012–Present ***Graduate Research/Teaching Assistant***
Missouri S&T, Department of Electrical and Computer Engineering, Rolla, MO
Developed reliability and survivability models for critical infrastructures.
Proposed a model for quantification of interdependencies in cyber-physical systems.

5/2016–8/2016 ***Software/Hardware Development Intern***
Kalscott Eng., Lawrence, KS
Worked on an automated air-band radio for UAVs. Main tasks include migrating to a Linux-powered single-board computer and adding speech recognition feature.

5/2015–8/2015 ***Web/Application Development Intern***
Intellispeak LLC, Lawrence, KS
Developed an information network for e-health services based on Gimbal Bluetooth beacons.
Were responsible for development of web server, Android app, database, and web interface.

5/2014–8/2014 ***Software/Hardware Development Intern***
Kalscott Eng., Lawrence, KS
Designed and developed an automated air-band radio for UAVs. This system is able to predict intent of the UAV and inform nearby traffic.

2/2011–6/2012 ***Research Assistant***
Industrial Automation Research Center, Isfahan University of Technology, Isfahan, Iran
Made a 10-channel stand-alone data logger.
Designed and developed a PC-based data acquisition system for ion-mobility spectrometry.

9/2010–2/2011 ***Electrical Engineer***
Beh-Azmoon Co., Isfahan, Iran
Created a wireless crack monitoring system for structural health monitoring

2/2010–9/2010 ***Design Engineer***
Farman Khodro Co., Isfahan, Iran
Designed an electric power steering system for Iran-Khodro Samand automobile.

11/2006–2/2010 ***Research Assistant***
Robotics and Automotive Research Center, Isfahan University of Technology, Isfahan, Iran
Developed navigation system and sensor fusion algorithm for LynCean mobile robot.
Implemented a motion planning algorithm for Persia soccer robots.
Implemented a walking algorithm and developed a motor controller for Parsa humanoid robot.
Prototyped an engine control unit for Honda GX35 engine.
Developed an electrical dynamometer for low-power engines.

Leadership Activities

3/2014–Present ***Active Member***
Eta Kappa Nu Honor Society - Gamma Theta Chapter
Attended regular meetings and helped in voluntary services.

10/2009–8/2010 ***Hardware Development Leader***
Super-mileage Car Student Design Team
Communicated status and issues to cross-functional teams and senior manager.
Coordinated resources using Microsoft Project.

9/2008–4/2009 ***Team Leader***
NODET Rescue Robot Student Design Team
Mentored students, helping them to solve problems and make decisions.

Honors and Awards

National University Transportation Center Fellowship, US Department of Transportation, 2013
Scholarship to attend summer school on Trustworthy Cyber Infrastructure for the Power Grid, Urbana, IL, 2013
Fellowship from Missouri S&T Vice-Provost for Graduate Studies, 2012
Gold Medal, 38th Geneva Invention Exhibition, Switzerland, 2010
Best Invention Award (from Russian Incubator), 38th Geneva Invention Exhibition, Switzerland, 2010
Outstanding Undergraduate Researcher Award, Isfahan University of Technology, Iran, 2009

Patents

Wireless Temperature Monitoring System for Centrifugal Casting, Pat. No. 81750, Iran, 2014
2D Wireless Structural Crack Monitoring System, Pat. No. 62181, Iran, 2010
Handheld Data Logger for Agricultural Applications, Pat. No. 61142, Iran, 2010
Life Detector Robot with Adjustable Functionality, Pat. No. 60845, Iran, 2009
Extendable DC Motor Controller System, Pat. No. 60839, Iran, 2009
An Innovative Co-Axial Rotation Mechanism, Pat. No. 60847, Iran, 2009
Robust Track Mechanism for Locomotion of Mobile Robots, Pat. No. 60849, Iran, 2009
Lightweight Robust Platform for Mobile Robots, Pat. No. 60848, Iran, 2009

Technical Skills

Programming Languages:	Python, C/C++, Java, SQL, Verilog, Assembly
Web Technologies:	HTML, JavaScript, jQuery, CSS, Amazon AWS/EC2
Development Tools:	Eclipse, PyCharm, Android Studio, Git, Keil
Computer Software:	LabVIEW (CLAD certificate, issued 5/13), MATLAB & Simulink, OrCAD, LaTeX, SAS, JMP, Active HDL, Xilinx ISE
Programmable Devices:	AVR and ARM-based Microcontrollers, FPGA, CPLD
Communication Protocols:	TCP/IP, 802.03, 802.11, UART, SPI, I^2C, ZigBee, Bluetooth
Operating Systems:	Windows, Linux (Ubuntu, Raspbian), Android
Miscellaneous:	Digital and analog circuit design, PCB design, Android application development