

CURRICULUM VITAE

KOOSHA MARASHI

CONTACT INFORMATION

Missouri University of Science and Technology (Missouri S&T)
113 Engineering Research Lab
500 W. 16th St.
Rolla, MO 65409-6522
Phone: (573) 202-8465
E-mail: km89f@mst.edu
Web page: <http://www.mst.edu/~km89f>
Linkedin: <http://www.linkedin.com/in/koosham>

EDUCATION

- 8/2012–Present Ph.D. in Computer Engineering (anticipated graduation date: 12/16)
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.
Developed a model for quantification of interdependencies in cyber-physical systems.
Developed a VLF signal detector for underwater communications.
- 5/2016–Present *Software/Hardware Development Intern*
Kalscott Eng., Lawrence, KS
Improved the previously designed automated air-band radio for UAVs. Main improvements include migrating to a small single-board computer with Linux 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.
Responsible for development of web server, Android application, 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.
- 8/2010–6/2012 *Research Assistant*
Industrial Automation Research Center, Isfahan University of Technology, Isfahan, Iran
 Designed and developed a 10-channel stand-alone data logger.
 Designed and developed a PC-based data acquisition system for ion-mobility spectrometry.
- 9/2011–2/2012 *Electrical Engineer*
Beh-Azmoon Co., Isfahan, Iran
 Designed and developed a wireless crack monitoring system used for structural health monitoring (funded by Iran’s Cultural Heritage Organization).
- 11/2006–10/2010 *Research Assistant*
Robotics Research Center, Isfahan University of Technology, Isfahan, Iran
 Designed and implemented navigation system, sensor fusion algorithm, and fuzzy logic motor controller for LynCean mobile robot.
 Implemented a motion planning algorithm for Persia soccer robots.
- 2/2010–9/2010 *Design Engineer*
Farman Khodro Co., Isfahan, Iran
 Designed an electric power steering system for Iran-Khodro Samand automobile.
- 10/2009–8/2010 *Research Assistant*
Automotive Research Group, Isfahan University of Technology, Isfahan, Iran
 Designed and developed a prototype Engine Control Unit (ECU) for Honda GX35 engine.
 Developed an electrical dynamometer for low-power engines.
- 6/2008–1/2009 *Research Assistant*
Artificial Intelligence Laboratory, Isfahan University of Technology, Isfahan, Iran
 Implemented walking algorithm and developed a motor controller for Parsa humanoid robot.
 Designed a test bed for measuring backlash of position servo mechanism motors.

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

REFEREED CONFERENCE PUBLICATIONS

K. Marashi, S. Sedigh, and A. Hurson, “Quantification and Analysis of Interdependency in Cyber-Physical Systems,” *In Proceedings of the 3rd International Workshop on Reliability and Security Aspects for Critical Infrastructure Protection (ReSA4CI '16)*, Toulouse, France, Jun. 2016.

K. Marashi and S. Sedigh, “Towards Comprehensive Modeling of Reliability for Smart Grids: Requirements and Challenges,” *In Proceedings of the 15th IEEE International Symposium on High-Assurance Systems Engineering (HASE)*, pp. 105-112, Miami, FL, Jan. 2014. Selected for appearing in 2nd issue of 2015 Science of Security Newsletter.

K. Marashi, M. Woodard, S. Sedigh, and A. Hurson, “Quantitative Reliability Analysis for Intelligent Water Distribution Networks,” *In Proceedings of the Embedded Topical Meeting on Risk Management for Complex Socio-Technical Systems (RM4CSS)*, Annual Meeting of the American Nuclear Society, Washington, D.C., Nov. 2013.

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, 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

PROFESSIONAL ACTIVITIES

Reviewer, Journal of Mathematics and Computer Science, 2016

Reviewer, IEEE International Computers, Software & Applications Conference (COMPSAC), 2016

Reviewer, IEEE International Computers, Software & Applications Conference (COMPSAC), 2015

Reviewer, IEEE International Green Computing Conference (IGCC), 2014

Reviewer, IEEE International Symposium on High Assurance Systems Engineering (HASE), 2014

Reviewer, IEEE International Conference on Software Security and Reliability (SERE), 2014

Reviewer, IEEE International Conference on Software Security and Reliability (SERE), 2013

PROFESSIONAL DEVELOPMENT

Graduate Teaching Assistant Workshop, Missouri S&T, Rolla, MO, 2014

Research & Technology Development Conference, Missouri S&T, Rolla, MO, 2014
 Transportation Infrastructure Conference, Missouri S&T, Rolla, MO, 2014
 IEEE/Ameren Lean Fundamentals Workshop, Ameren, St. Louis, MO, 2014
 Presenting Data and Information by Edward Tufte, Fairmont Chicago, Chicago, IL, 2014
 IEEE Seminar on Modeling Cyber Attack-Defense Interactions, Missouri S&T, Rolla, MO, 2013
 Engineering Management & Systems Engineering Graduate Seminar - A Survey of Applications and Future Directions of Computational Intelligence, Missouri S&T, Rolla, MO, 2013
 Transportation Infrastructure Conference, Capitol Plaza Hotel, Jefferson City, MO, 2013
 Trustworthy Cyber Infrastructure for the Power Grid (TCIPG) Summer School, Q Center, St. Charles, IL, 2013

PROFESSIONAL SOCIETY MEMBERSHIP

IEEE Student Member, Since 2013
 IEEE - Eta Kappa Nu Member, Since 2014 ACM Student Member, Since 2015
 ACM - SIGMETRICS Member, Since 2015
 National Society of Professional Engineers Student Member, Since 2015

TECHNICAL SKILLS

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