

# RÉSUMÉ

KOOSHA MARASHI

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## 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>

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## 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

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## 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

## PUBLICATIONS

3 refereed conference papers.  
 2 journal papers submitted.

## 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, 38<sup>th</sup> Geneva Invention Exhibition, Switzerland, 2010  
 Best Invention Award (from Russian Incubator), 38<sup>th</sup> Geneva Invention Exhibition, Switzerland, 2010  
 Outstanding Undergraduate Researcher Award, Isfahan University of Technology, Iran, 2009

## 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, L <sup>A</sup> T <sub>E</sub> X, 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 <sup>2</sup> 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