Omid **Karimpour**

Master of Engineering · Ryerson University

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Work Experience

McMaster University (Smart Joint Monitoring Lab)

Hamilton, ON

Scholar — *Jan. 2016 - Sep. 2016*

- Worked with **Prof. Jamal Deen** to analyze gait kinematics and gait kinetics. This led to the development of a Smart Joint Methods based on adding gyroscopes, force plates, EMG, muscle force. Previous works were compared and further researched on Slavelberg, Former-Cordero estimate 3D ground reaction forces (GRFs) and optimal placement of accelerometers.
  - Gait analysis, accuracy and reliability of Smart Joint Methods & Optimal Sensors Placement
  - Collating selection of approaches such as Bro, Intille and Gjoreski

SDI Marketing (TMS)

Newmarket, ON

Manager & Lead Advisor — *Sep. 2015 - Present*

- To manage and oversee the operations of multiple stores following superior-rated performance. Developing and performing incentives and training for District's employees & lead advisors
  - Multiple award winner for top performance
  - Generating a 300% growth in revenue
  - Reversed store's downward spiral
  - Earning a reputation for effective leadership under ambitious deadlines

Education

Ryerson University

Toronto, ON

M.Eng. in Electrical and Computer Engineering — *Aug. 2016 - Present*

Shahid Beheshti University (former National University of Iran)

Tehran, Iran

B.S. in Electrical and Computer Engineering — *Sep. 2010 - Jan 2015*

Research Experience

Ryerson University

Toronto, ON

Master of Engineering at EE Department — *Sep. 2015 - Present*

- **Prediction models for digit recognition, car acceptability, wine quality, & water level**
  Advisor: Prof. Farah Mohammadi
  - Modeling and simulating with MATLAB on different real world datasets
  - Creating a Neural Network, SVM Prediction Model, K-means clustering for Image dimensionality reduction

- **Lines, & circles detection in noisy environment with 5 pixels accuracy**
  Advisor: Dr. Lev Kirischian
  - Blurring Process, Edge detection, Hough transform algorithms, and etc with OpenCV
  - Comparison of Hough transform, Fast, Random hough transform, and Efficient randomized algorithm

- **Architiectural Synthesis Course Project: Architecture analysis and high-level synthesis of ASP of a VOP buffer**
  Advisor: Dr. Lev Kirischian
  - Analyze the fully pipelined variant of architecture to get the highest performance of ASP
  - Assess the economic aspects, power consumption, and VOP area, determined by the available memory bandwidth

- **Digital System Testing Course Project: Reliability evaluation and build in self repair of reconfigurable FPGAs**
  Advisor: Prof. V. Geurkov
  - Reliability analysis & comparision of Hierarchical redundancy, Optimal repair, Coarse redundancy, Tile-based repair models
  - Analyzed combinational and sequential circuit test generation methods. Memory, delay testng, and testability design methodology

- **Embeded System Course Project: Hardware-software codesign, DE2-Altera FPGA based, and Nios II SoPC Development**
  Advisor: Prof. Gul Khan
  - Multitasking ARM Applications by using uVision and RTX, realtime scheduling and investigate RTOS using ARM Cortex M3

Shahid Beheshti University *Tehran, Iran*

Research Assistant at Electronics Lab *Jan. 2012 - Jul. 2015*

- **The Bachelor Final Project: Designing, simulating and implementing CMOS amplifier with Beta-Multiplier Reference**
  Advisor: Prof. Hashemipour
  - High gain low noise CMOS amplifier design with a BMR utilizing Positive close loop feedback, Novel Cascade Currant Mirrors

- **Designing and implementing a ZigBee OEM Module Starter**
  Advisor: Prof. Jalali
  - Designing, optimizing, and implementing a ProBee ZE10 Starter using ARM Cortex M3
  - Sigma-Delta AD Converters analysis, the highway traffic measurment analysis using GPS mobile devices

Skills

Programming	C/C++, C#, Python, MATLAB, JAVA, VHDL, Verilog, LaTeX
Robotic Programming Tools	ROS (Robot Operating System), OpenCV
Analog Digital Design Tools	H-Spice, P-Spice
Smart Phone Programming	iOS (Swift), Android (JAVA)
Microcontrollers	AVR, ARM, FPGA, PLC
PCB Layout	Altium Designer

Honors & Awards

2018	**1st Place**, TMS, Certified for top revenue improvement, Eastern Canada	*GTA, ON*
2017	**1st Place**, TMS, Certified for top leadership, Eastern Canada	*GTA, ON*
2010	**Ranked Top 1%**, Mathematics and Physics among more than 178,000 students in Iranian nationwide university entrance examination (Konkoor).	*Tehran, Iran*
2008	**Accepted**, Iranian National Olympiad Competition in Mathematics	*Tehran, Iran*

Test Scores

IELTS Academic *CA265*

Score: 7.0 *Mar. 2016*

- Writing (7.5/9), Listening (7.5/9), Speaking (6.5/9), Reading (5.5/9)