

Iman Moazzen, Ph.D.

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WORK EXPERIENCE

02/2014 – Present: **Energy System Modeler and Data Analyst**

Institute for Integrated Energy Systems, University of Victoria, Canada

- Postdoctoral Fellow at “2060 Project: Integrated Energy Pathways for British Columbia and Canada” to explore the costs and benefits of a range of electrical grid integration options for Canada as an effective means to reduce greenhouse gas emissions and increase system reliability
- Developed high fidelity computer models using PLEXOS and MATLAB to investigate the impacts of adding more intermittent renewable energy sources to the electrical grid at various scales

05/2013 – 02/2014: **Digital Signal Processing Research Associate**

Digital Signal Processing Group, University of Victoria, Canada

- Proposed a blind source separation algorithm for applications in wireless communication systems

10/2012 – 04/2014: **Design Chair Research Assistant**

Faculty of Engineering and Educational Psychology, University of Victoria, Canada

- Developed, tested and documented assessment tools of Design Outcomes for Faculty of Engineering’s Design Chair Initiatives (presented at Canadian Engineering Education Association 2013 & 2014)
- Collaborated with faculty members, design teams and students to craft and implement program evaluation instruments, collected and evaluated data, examined the overall effectiveness of the multi-year design curriculum and made recommendations for program improvement

09/2013 – 12/2014: **Lab Supervisor for “Design & Communication I & II”**

Faculty of Engineering, University of Victoria, Canada

- Taught the basic principles of Engineering Design to engineering students
- Advised students on their client-based design projects in the labs and monitored their progress
- Organized design competition, Dealt with logistics and delivery of the lab, Marked design projects

09/2010 – 08/2014: **Academic Assistant**

Electrical and Computer Engineering Department, University of Victoria, Canada

- Tutorial and Lab Teaching Assistant for many courses including “Digital Signal Processing”, “Continuous-Time Signals and Systems”, “Control Theory I” and “Engineering Graphics”
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EDUCATION

01/2010 – 04/2013: **PhD, Electrical Engineering, Digital Signal Processing**

University of Victoria, Canada

- Thesis: Array Signal Processing for Beamforming and Blind Source Separation
- Outcome: Two Peer-Reviewed Journals and Six International Conference Papers

09/2006 – 02/2009: **Master of Science, Electrical Engineering, Telecommunication Systems**

Isfahan University of Technology, Isfahan, Iran

- Thesis: Design of a Blind Adaptive Decision Feedback Equalizer for Time-Varying Channels
- Outcome: Three International Conference Papers

09/2002 – 09/2006: **Bachelor of Science, Biomedical Engineering (System Major)**

Science & Research University, Tehran, Iran

- Thesis: Design of an ECG Classifier using Artificial Neural Networks and Wavelet Transform

AWARDS & GRANTS

2014: Nomination for Governor General's Gold Medal Award for my PhD Dissertation
2014: BCIC StartSmart Voucher for Entrepreneurs (\$5700)
2012: Andy Farquharson Teaching Excellence Award, University of Victoria
2010 – 2011: University of Victoria Fellowship for PhD Students
2010 – 2013: Research Assistantship, University of Victoria
2009: Best-Student Paper Award (WCSP 2009, China)
2009: Iran Telecommunication Research Center Grant (for MSc thesis)

PROFESSIONAL SKILLS

Engineering Design

- A unique blend of skills including strong math background with analytical mind, creative thinking, advanced programming skills, teamwork and hands-on skills
- Several practices of *iterative* Engineering Design Process to come up with a meaningful and feasible solution for an open-ended problem that meets certain criteria and accomplishes a certain task

Digital Signal Processing (DSP)

- A profound knowledge of DSP and different domain analysis (Time, Space, Frequency, Z)
- Eight-year experience in various applications of DSP including:

Multi-Dimensional Filter Design	Static & Adaptive Filter Banks	Uniform and Non-Uniform Sampling	
Noise and Echo Cancellation	Modulation & Demodulation	Speech Recognition	Image Segmentation
Equalization	Biomedical Signal Processing	Feature Extraction	Image Enhancement
Beamforming	Direction-of-Arrival Estimation	Motion Detection	Compression

Robotics

- Conceptualized, assembled and troubleshot many robots
- Acquired data from various sensors (such as infrared, pressure and ultrasound)
- Communicated with remote devices through serial (RS232) and wireless (Bluetooth) interfaces
- Programmed microcontrollers for robot control, sensory feedback, and information processing

Machine Learning

- Developed *supervised* classification algorithms using Artificial Neural Networks and Adaptive Filters
- Implemented a *semi-supervised* channel estimation method using Bayesian Decision Variables
- Conceptualized and implemented a *blind* source separation approach using Multi-Modulus algorithm

Energy Systems Modeling

- Techno-economic long-term expansion planning to build/retire generation facilities & transmission
- Mid-term planning to manage fuel supply and optimize water usage in cascaded hydro systems
- Short-term scheduling for economic dispatch and optimized unit commitment
- Forecasting, risk analysis, and stochastic optimization to deal with random events

Software & Web Development

- Exceptionally talented at developing time-efficient algorithms to solve a particular problem
- Clear understanding of Design Patterns to create extendable, maintainable and reusable codes
- 10-year coding experience in many different languages including Java, MATLAB, C, RobotC, SQL
- In-depth knowledge of the web to entirely design the content of web page (HTML), format it (CSS), and make it interactive (JavaScript & jQuery) and seamless using asynchronous techniques (AJAX)

Communication & Interpersonal Skills

- Outstandingly skilled at explaining complicated concepts (teaching excellence award winner)
 - Experienced at delivering invited talks and professional presentations to academics and industry
 - Several positive experiences participating in multidisciplinary and multicultural teams
 - Able to connect with team members at professional as well as personal level
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Please visit <http://www.ece.uvic.ca/~imanmoaz> to see some of my references, recent projects and publications.