Ali Marjaninejad

CONTACT INFORMATION	Brain-Body Dynamics Lab, Ronald Tutor Hall, University of Southern California Los Angeles, California Email: marjanin@usc.edu Phone: +1-213-536 3159

EDUCATION

University of Southern California

⊙ Ph.D. Biomedical Engineering   AUG 2015 - PRESENT

Amirkabir University of technology

⊙ M.Sc. Biomedical Engineering - Bioelectrics   SEP 2012 - FEB 2015

▷ GPA: 18.93/20 (4/4)

Sahand University of technology

⊙ B.Sc. Electrical Engineering - Bioelectrics   FEB 2008 - FEB 2012

▷ GPA: 18.15/20 (3.83/4)
▷ Junior/Senior GPA: 18.71/20 (3.96/4)

RESEARCH INTERESTS

Biological Signal Processing (BSP), Digital Signal Processing (DSP), Digital Image Processing (DIP), Bio-Medical Instruments, Pattern Recognition, Machine Learning, HMI and BMI.

PUBLICATIONS

"PublishedAccepted"

⊙ Geramipour, Arezou, Mohammad Khazaei,**Ali Marjaninejad**, and Mehdi Khazaei. "*Design of Fpga-Based Digital Pid Controller Using Xilinx Sysgen for Regulating Blood Glucose Level of Type-I Diabetic Patients.*" International Journal of Mechatronics, Electrical and Computer Technology (IJMEC) Vol. 3(7), Apr, 2013 (2013): 56 - 69.

⊙ **Marjaninejad, Ali**, Sabalan Daneshvar. "*A Low-cost Real-time Wheelchair Navigation System Using Electrooculography*" The 22nd Iranian Conference on Electrical Engineering (ICEE 2014) "Indexed on IEEE Xplore".

⊙ **Marjaninejad, Ali**, Farshad Almasganj. "*Estimation of Sound Source Location using Microphone Arrays by means of Intelligent Methods and Interpolation*" The 8th National Conference on Engineering Sciences, Novel Ideas, 2014 (in Farsi) - (Indexed on Civilica).

- **Marjaninejad, Ali**, Farshad Almasganj, Azra Saeedi. *"Estimation of Sound Source Depth using Microphone Arrays by means of Intelligent Methods and Interpolation"* The 1st National Conference on Electrical and Computer Engineering North Iran 2014 (in Farsi).

- **Marjaninejad, Ali**, Farshad Almasganj, Ata Jodeiri Sheikhzadeh. *"Online Signal to Noise Ratio Improvement of ECG Signal based on EEMD of Synchronized ECG Beats"* The 21st Iranian Conference on Biomedical Engineering (ICBME 2014) Indexed on IEEE Xplore".

HONORS & AWARDS

- Selected for the fully funded Summer School in Computational Sensory-Motor Neuroscience (CoSMo 2016) - funded by NIH

- Provost's Ph.D. Fellowship (2015) - University of Southern California

- Honor Student Awards - a member of Honor Students in all B.Sc. and M.Sc. semesters because of high GPA and excellent performance.

- Receiving a Research Assistantship, seven Teaching Assistantships and a Distinguished Student fellowship.

- Receiving external funds for distinguished M.Sc. project.

- 2nd Rank in B.Sc. among 39 students.

- Being eligible to apply for M.Sc. program without entering exam using Honor Students privilege (Because of the high GPA, being among the first 3 students and having excellent performance in B.Sc.) and received admission from three different universities including Amirkabir University of Technology.

- Being eligible and taking a part in National Electrical Engineering Olympiads (2010).

- Being eligible and offered to study PhD. in Amirkabir university of Technology without entrance exam, using Honor Students privilege (Because of the high GPA, being among the first 3 students and having excellent performance in M.Sc.)

- Receiving a Certificate of Appreciation from the Deputy Minister of Science due to the activities on 3 different fields in "Bioelectric" Journal (the student journal of Biomedical Department of Sahand university of Technology) 2008-2009. The journal was elected as the best national students journal.

- Judging and mentoring at the 2016 ASBME Makeathon at USC

- Judging at the 18th Annual Undergraduate Symposium for Scholarly and Creative Work at USC (2016)

Research Experience

- ⊙ Research Assistant at Intelligent Signal and Data Processing Lab – Amirkabir University of Technology. 2012 - present

- ⊙ Highly experienced in processing of various biological signals - published papers and worked on various projects related to the biological signals.

- ⊙ Highly experienced in designing a large variety of bio-instruments for amplifying and recording of biological signals (EOG amplifiers, filters and processor unit ECG amplifiers and filters on PCB)

- ⊙ Work with PowerLab (from ADInstruments) and record and process a great variety of biological signals using Chart and MATLAB software packages.

- ⊙ Experienced in Array signal processing and multi-input systems.

- ⊙ Record and collect microphone array database for M.Sc. Project and have the experience of working on real problems and data

- ⊙ Experienced in work with microcontrollers of ARM, AVR and 8051 families and accomplishing various projects, e.g., Microorganisms feeding system for Chemical engineering faculty, Amirkabir university of Technology.

- ⊙ Experienced in MRI systems and their principles,

  - ▷ **Internship**: MRI section of the exclusive service provider for **General Electric**-Healthcare Company in Iran (Pishrafteh Co.)

- ⊙ Took part in three different research positions in Bioelectric Journal (the student journal of Biomedical Department of Sahand university of Technology) 2008 - 2009. The journal was elected as the best national students journal.

Professional Society Activities & Memberships

- ⊙ Editor of "Tapesh" Journal (the student journal of Biomedical Department of Amirkabir university of Technology) 2014 - Present

- ⊙ Institute of Electrical and Electronics Engineering (IEEE) student member

Teaching Experience

- ⊙ **Course Instructor**

  - ▷ **Electronics I Laboratory** – Amirkabir University of Technology. 2014
  - ▷ **Electrical Circuits Laboratory** – Amirkabir University of Technology. 2014 – Present
  - ▷ **Microprocessors Laboratory (ARM)** – Amirkabir University of Technology. 2014 – Present

- ⊙ **Teaching Assistantships**

  - ▷ **Bio-statistics** – Sahand University of Technology – Under the supervision of Dr. Mousa Shamsi. 2009

- ▷ **Signals and Systems** – Sahand University of Technology – Under the supervision of Dr. Mousa Shamsi. 2010
- ▷ **Microprocessors** – (AVR – Assembly and C) – Amirkabir University of Technology – Under the supervision of Dr. Farshad Almasganj. 2013 – Present (3-times)
- ▷ **Digital Signal Processing** – for PhD. And M.Sc. Students + MATLAB DSP toolbox – Amirkabir University of Technology – Under the supervision of Dr. Farshad Almasganj. 2013 – Present (2-years)

⊙ **Workshop Instructor**

- ▷ **General MATLAB Course** – University of Southern California – Hosted by Graduate Society of Biomedical Engineering department of University of Southern California. 2015
- ▷ **General MATLAB Course** – Sahand University of Technology – Hosted by Scientific Association of Electrical Engineering of Sahand University of Technology. 2010
- ▷ **General MATLAB Course** – Sahand University of Technology – Hosted by Scientific Association of Mining Engineering of Sahand University of Technology. 2010
- ▷ **Pspice Software** – Sahand University of Technology – Held by Scientific Association of Electrical Engineering of Sahand University of Technology. 2010
- ▷ **Advanced MATLAB Course** – "Genetic Algorithm, Fuzzy Inference Systems, Neural Networks, Adaptive Neuro-fuzzy Inference Systems, Digital Signal Processing, Digital Image Processing" – Khajenasir University of Technology – Hosted by Scientific Association of Electrical Engineering of Khajenasir University of Technology. 2012
- ▷ **Advanced MATLAB – Digital Signal/Image Processing** – "Digital Signal Processing, Digital Image Processing" – Amirkabir University of Technology – Hosted by Scientific Association of Biomedical Engineering of Amirkabir University of Technology. 2013
- ▷ **How to prepare an academic Dissertation or Paper using MS Word and Endnote** – Biomedical Engineering Faculty Amirkabir University of Technology. 2014

⊙ **Talks**

- ▷ **Principles and the future of Biomedical Signal Processing** – Biomedical Engineering Faculty – Amirkabir University of Technology. 2014

COMPUTER
SKILLS

⊙ Programing Languages

- ▷ MATLAB, C, Python, Assembly

⊙ Engineering Software Packages

- ▷ MATLAB: Digital Signal Processing, Digital Image Processing, Neural Networks, Fuzzy Inference Systems & Adaptive Neuro-Fuzzy Inference Systems, Genetic Algorithm, Simulink

- ▷ Pspice   ▷ Proteus   ▷ Protel
- ▷ Xilinx ISE (FPGA) ▷ ModelSim   ▷ Chart (PowerLab)
- ▷ CodeVision (AVR)   ▷ Atmel Studio (AVR) ▷ Keil (ARM)
- ▷ SolidWorks

⊙ General Software Packages

- ▷ LaTeX, Microsoft Office (Word, Excel, PowerPoint), Adobe Photoshop, Adobe Audition, Praat

TECHNICAL CERTIFICATES

⊙ ISO 13485 Internal Audit Training Course, Held by Giumeh Co, Certificated by Oxfordcert. 2013 Registration Number: TIA1331509010

LANGUAGE PROFICIENCY & TEST SCORES

⊙ **GRE**   Q: **168**   V: **155**   AW: **4**

⊙ English(Fluent)   **TOEFL** Score: **104** (R:26 L:29 S:24 W:25)

⊙ Persian(Native)

⊙ Turkish(Fluent)

⊙ Arabic(Intermediate)

References can be provided upon request