

Ali Marjaninejad

CONTACT INFORMATION Brain-Body Dynamics Lab, Ronald Tutor Hall, University of Southern California
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EDUCATION **University of Southern California**

⊙ Ph.D. Biomedical Engineering AUG 2015 - PRESENT

⊙ M.Sc. Electrical Engineering - Data Science AUG 2016 - PRESENT

Amirkabir University of technology

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

▷ GPA: 18.93/20 (4/4)

Sahand University of technology

⊙ B.Sc. Electrical Engineering - Bioelectronics 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), Neuroscience, Brain-Machine Interface, Bio-Medical Instruments, Pattern Recognition, and Machine Learning.

PEER

REVIEWED

PUBLICATIONS

- ⊙ **Marjaninejad, Ali**, Babak Taherian, Francisco Valero-Cuevas ” *Finger Movements Are Mainly Represented by a Linear Transformation of Energy in Band-Specific ECoG Signals*” Engineering in Medicine and Biology Society (EMBC) 2017 - Indexed on IEEE Xplore.
- ⊙ Mohammad Khazaei, Hossein SadatHosseini, **Marjaninejad, Ali**, Sabalan Daneshvar. ” *A Radial Basis Function Neural Network Approximator with Fast Terminal Sliding Mode Based Learning Algorithm and Its Application in Control Systems*” The 25th Iranian Conference on Electrical Engineering (ICEE) 2017 - Indexed on IEEE Xplore.
- ⊙ **Marjaninejad, Ali**, James Finley. ” *A model-based exploration of the role of pattern generating circuits during locomotor adaptation*” Engineering in Medicine and Biology Society (EMBC) 2016 - Indexed on IEEE Xplore.

- ⊙ **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.
- ⊙ **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 Persian) - (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 Persian).
- ⊙ **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”.
- ⊙ 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.

HONORS & AWARDS

- ⊙ Selected for and participated in the fully funded Summer School: Health Data Exploration (HDE 2017) - funded by Robert Wood Johnson Foundation
- ⊙ Finalist in Maseeh Entrepreneurship Prize Competition (2017)
- ⊙ Selected for and participated in the fully funded Summer School: Computational Sensory-Motor Neuroscience (CoSMo 2016) - funded by NIH
- ⊙ Finalist in USC Stevens Student Innovator Showcase (2016)
- ⊙ 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

- ⊙ Experienced in working with different types of brain signals – EEG, ECoG, SUA.
- ⊙ Experienced in working with Big-Data and machine learning applications on Big-Data.
- ⊙ Research Assistant at Brain-Body Dynamics Lab – University of Southern California. 2016 - present
- ⊙ Research Assistant at Intelligent Signal and Data Processing Lab – Amirkabir University of Technology. 2012 - 2015
- ⊙ 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 "Tapes" 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

