

Soha Rostaminia

College of Information and Computer Sciences
University of Massachusetts Amherst

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Education

- Feb. 2018- Present **University of Massachusetts Amherst**
Ph.D. Candidate in Computer Science – Advisor: [Prof. Deepak Ganesan](#)
- 2015-2018 **University of Massachusetts Amherst**
M.S. in Computer Science – Advisor: [Prof. Deepak Ganesan](#)
GPA: 3.845/4
- 2011-2015 **University of Tehran**
B.Sc. in Electrical Engineering (Rank 3rd)
with Bioelectrical Engineering Concentration (Rank 1st) – Advisor: [Prof. S. K. Setarehdan](#)
GPA: 18.47/20

Research Interests

Mobile Health Systems
Wearable and Sensor Computing
Machine Learning

Publications and Presentations

- Paper W!NCE: Unobtrusive Sensing of Upper Facial Action Units with EOG-based Eyewear.
Soha Rostaminia, Alexander Lamson, Subhransu Maji, Tauhidur Rahman, and Deepak Ganesan.
UbiComp 2019.
- Poster/Demo W!NCE: eyewear solution for upper face action units monitoring.
Soha Rostaminia, Alexander Lamson, Subhransu Maji, Tauhidur Rahman, and Deepak Ganesan.
ETRA 2019.
- Paper iLid: Low-power Sensing of Fatigue and Drowsiness Measures on a Computational Eyeglass.
Soha Rostaminia, Addison Mayberry, Deepak Ganesan, Benjamin Marlin, Jeremy Gummeson.
UbiComp 2017.
- Poster/Demo iLid: eyewear solution for low-power fatigue and drowsiness monitoring.
Soha Rostaminia, Addison Mayberry, Deepak Ganesan, Benjamin Marlin, Jeremy Gummeson.
ETRA 2019.
- Paper WearID: A Wrist-worn Backscatter Reader to Measure Interactions with the Physical World
Ali Kiaghadi, Pan Hu, Jeremy Gummeson, **Soha Rostaminia**, Deepak Ganesan
Under review.

Research Experience

- Fall 2015- Present **Research Assistant**
Sensors Lab, University of Massachusetts Amherst. Supervisor: Prof. Deepak Ganesan.
I am focusing on developing light and robust algorithms for low power computational eyeglasses.
My ultimate goal is to be able to extract useful information regarding the physiological and cognitive state of the user by means of computational eyeglasses.
- Summer 2019 **Research Intern**
Bose Corp. Machine Learning Group. Supervisors: Dr. Marko Orescanin and Dr. Kevin Larke.
Develop gesture and activity recognition technology for wearable consumer electronic products.

2014 – 2015 **Undergraduate Thesis Project**

fNIRS Lab, University of Tehran. Supervisor: Prof. S. K. Setarehdan.

Design and Implementation of a Noninvasive Cuffless Blood Pressure Monitor. In this work, we present a system for estimating the blood pressure by means of Pulse Transit Time (PTT).

Summer 2014 **Undergraduate Internship**

fNIRS Lab, University of Tehran. Supervisor: Prof. S. K. Setarehdan.

Design and Implementation of a User-Interface for fNIRS Cap with Arduino Mega 2560. This project includes driving a TFT LCD with touch shield, SD card, WTV020 module, and other related modules.

Invited Talk

April 2019 “Unobtrusive Sensing of Upper Facial Action Units with EOG-based Eyewear”, Data Science for Health and Well Being workshop, Data Science Research Symposium, University of Massachusetts Amherst.

Computer and Technical Skills

Programming *Fluent:* MATLAB, C/C++, Python (NumPy, SciPy, scikit-learn, TensorFlow, Keras)

Languages *Comfortable:* HTML, CSS, PHP

Skills Signal processing - Deep Learning - Pattern recognition and statistical analysis - Human data measurement (physiological and activity data) - Experiment design - User studies.

Honors and Awards

2017 **Best Poster Award** Capital Region Celebration of Women in Computing Conference (CAPWIC)

2017 Microsoft Research and ACM Full Scholarship CRA-W Grad Workshop.

2011 – 2015 **Ranked 1th** between bioelectrical engineering students of University of Tehran, Iran.

Ranked 3rd between 120 electrical engineering students of University of Tehran, Iran.

2015 Distinguished B.Sc. student award , with honorary acceptance for the M.S. program.

2010 – 2014 Recipient of the grant for undergraduate studies from the [Iranian National Elites Foundation](#), for outstanding academic success.

2010 **Silver medal** of “National Physics Olympiad” Tehran, Iran.

2010 Semi-finalist in Iranian “National Astronomy Olympiad” Tehran, Iran.

2009 Semi-finalist in Iranian “National Physics Olympiad” Tehran, Iran.

Professional Service

2018 TPC member of ACM S³ 2018 workshop in conjunction with MobiCom 2018.

2017-2018 Reviewer for proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT).

2018-2019 Graduate Student Representative, College of Information and Computer Sciences, University of Massachusetts Amherst.

2018-2019 Weekly meeting organizer, Sensors Lab, University of Massachusetts Amherst.

2017-2018 Officer of Iranian Graduate Students Association (IGSA) in University of Massachusetts Amherst.

2014-2015 Vice president of Scientific and Educational Committee in the student branch of [ISBME](#) (Iranian Society for Biomedical Engineering) in University of Tehran, Iran.

2013 Member of Student Committee of 20th Iranian Conference on Biomedical Engineering, Tehran, Iran.

Teaching Experience

- Spring 2019 Teacher Assistant in “Data Visualization and Analysis”, Instructor, Prof. A.Sarvghad.
- Spring 2014 Teacher Assistant in “Engineering Mathematics”, Instructor, Prof. J.Rashed.
- Fall 2013 Teacher Assistant in “Electromagnetics”, Instructor, Prof. L.Yousefi.
- Spring 2013 Teacher Assistant in “Engineering Mathematics”, Instructor, Prof. M.Taheri.
- Summer 2013 Teacher of “Physics for National Olympiad”, Nemuneh High School, Tehran, Iran.
- Summer 2012 Teacher of “Physics for National Olympiad”, Farzanegan High School, Sary, Iran.
- Fall 2012 Teacher Assistant in “Electrical Circuit I”, Instructor, Prof. J.Rashed.

Certifications

- August 2017 Certification in mHealth Summer Training Institute, University of California, Los Angeles.
- January 2017 Certification in Red Cross “Citizen CPR” program, Environmental Health and Safety, University of Massachusetts Amherst.
- December 2013 Certification in Workshop of "Effecting of Bio-electromagnetic Waves on Pregnancy", 20th Iranian Conference on Biomedical Engineering, Tehran, Iran.
- November 2012 Certification in Workshop of "Teaching Assistant Training", University of Tehran, Iran.

Selected Graduate Coursework

- CS 611 Advanced Algorithms
- CS 689 Machine Learning
- CS 688 Probabilistic Graphical Model
- CS 670 Computer Vision
- CS 697W Wearable and Mobile Sensor Computing – Seminar
- CS 653 Computer Networking
- CS 660 Advanced Information Assurance