

Armin Panjehpour *Feb 21, 2001*

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Sharif University of Technology • Tehran, Iran

Research Interests

Systems Neuroscience - Computational Neuroscience - Cognitive Sciences - Signal Processing - Neural Networks

Education

The University of Western Ontario London, Canada
M.Sc. degree in Neuroscience *Starting Sep 2023*
Research Assistant under supervision of [Prof. Andrew Pruszyński](#) & [Prof. Jorn Diedrichsen](#)

Sharif University of Technology Tehran, Iran
Bachelor degree in Electrical Engineering / Biomedical Engineering major *2019 – Present*
GPA 17.60/20 - Expected graduation: Spring 2023
- Sharif University is ranked 1st in Iran based on QS Ranking

National Organization for Development of Exceptional Talents (Nodet) Isfahan, Iran
High school diploma degree in Mathematics and Physics *2017 – 2019*
- Nodet is a highly selective collection of schools. Admission is only offered to a few (< 1% of applicants) through a highly competitive evaluation process which is largely based on problem solving, math and scientific skills.

Selected Research Experiences

- [IPM School of Cognitive Sciences](#) Institute for Research in Fundamental Sciences - Tehran, Iran
Research Assistant *July 2022 – March 2023*
Investigating whether visual search parameters and efficiency of the search are encoded by the single neurons of the prefrontal cortex of macaque monkeys using single electrode recordings
Under supervision of [Prof. Ali Ghazizadeh](#)

- Prof. Hamid Aghajan's Neuroscience Lab Sharif University of Technology - Tehran, Iran
Research Assistant *July 2021 – July 2022*
Investigating spatio-temporal pattern of neural oscillations (traveling waves) in human cortex during brain entrainment using EEG data acquisition
Under supervision of [Prof. Hamid Aghajan](#)

Research Outputs

Research Articles

- [Prefrontal Cortex Encodes Value Pop-out in Visual Search](#)
M. Abbaszadeh, **A. Panjehpour**, MA. Alemohammad, A. Ghavampour, A. Ghazizadeh

Conference Abstracts

- **The quality of visual entrainment correlates with forward/backward traveling wave properties in human cortex**
M. Lahijanian, **A. Panjehpour**, H. Aghajan
Alzheimer's Association International Conference 2023 - Accepted, Not published yet

Selected Course Projects

Neuroscience

- **Neural Coding and Population Analysis**
 - IF and LIF spiking analysis (a point process study) [[Github](#)]
 - Analyzing the activity of a population of units in Parietal cortex [[Github](#)]
 - Noise and signal correlation and the effect of noise on encoding and decoding [[Github](#)]

- **Learning and Decision Making**
 - Reinforcement learning of a rat in the water maze [Github]
 - Classical conditioning paradigms and learning paradigms with uncertainty [Github]
 - Drift Diffusion model for evidence accumulation, MT and LIP interaction model [Github]
- **Investigation of Cortical Traveling Waves in Array dataset**
 - Analyzing the activity of Local Field Potentials in Premotor Area F5 [Github]
- **Underlying Mechanisms of Feedback Alignment**
 - Analyzing the mathematics of feedback alignment in a biologically inspired network [Github]
- **Visual Attention and Visual Model**
 - Saliency maps to predict where humans look [Github]
 - Sparse representation of natural images which is matched with receptive fields of simple cells in V1 [Github]
- **Motor Neurons LFP Activity Analysis**
 - Motor cortex neurons encode different types of kinematics in Reach-to-Grasp task [Github]

Medical Signal Processing

- **EEG signal classification** [Github]
 - Feature extraction, feature selection, and classification using neural networks and genetic algorithms

Skills

Programming/ Computing Skills: • Matlab • Python • Pytorch • EEGLab • C/C++ • HTML/CSS

Other Skills: • Git • L^AT_EX • Pyschtoolbox • Arduino

Language Skills: • Persian (*mother tongue*) • English (TOEFL 99)

Professional & Community Activities

Teaching Assistant

- Advanced Topics in Neuroscience – M.Sc. course – Prof. Ali Ghazizadeh Spring 2023
- Foundations of Neuroscience – B.Sc. course – Prof. Ali Ghazizadeh Fall 2023
- Computational Intelligence – B.Sc. course – Prof. Sepideh Hajipour Fall 2023
- Signals and Systems – B.Sc. course – Prof. Arash Amini Spring 2022
- Neuroscience of Learning and Cognition – M.Sc. course – Prof. Hamid Aghajan Fall 2021 - Fall 2022

Sharif Neuroscience Symposium

- Executive team Head of SNS 2023 November 2022 - March 2023
- Executive team member of SNS 2021 November 2020 - March 2021

Resana's Annual Conference on Technology [EE Dept. Sharif University of Technology]

- Head manager of ReACT 2021 August 2021 - January 2022
- Executive team member of ReACT 2020 October 2020 - December 2021

EE Dept. Student's Association [Resana]

- Web Programming Workshop Instructor June 2021 - August 2021

Selected Academic Courses

Graduate Courses

- Advanced Topics in Neuroscience [20/20] • Neuroscience of Learning, Memory and Cognition [20/20] • EEG Signal Processing [17.2/20]

Undergraduate Courses

- Foundations of Neuroscience [19.5/20] • Computational Intelligence [16.3/20] • Signals and Systems [18.5/20]
- C++ Programming [19.9/20] • Medical Signal & Image Processing Lab [19.2/20] • Principles of Biomedical Engineering [17/20] • Linear Algebra [16/20] • Parallel Programming [N.S.] • Neuroscience Lab [N.S.]

Honors and Awards

Mathematics and Physics University Entrance Exam 2019 – Ranked 95 among 144,000 participants

Three Gold Medals in Province Volleyball Competitions 2017 - 2019