Armin Panjehpour *Feb 21, 2001*

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University of Western Ontario • London, Canada

Education

University of Western Ontario — London, Canada
M.Sc. degree in Neuroscience — *Sep 2023 - Present*
Research Assistant under supervision of Andrew Pruszynski & Jorn Diedrichsen

Sharif University of Technology — Tehran, Iran
Bachelor degree in Electrical Engineering / Biomedical Engineering major — *2019 – 2023*
GPA 17.60/20
- Ranked 95 among 144,000 participants in the entrance exam

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

- Sensorimotor Superlab — Western University - London, Ontario, Canada
Research Assistant — *Sep 2023 – Present*
I'm studying how sequences of movements are prepared and executed using human behavior and monkey electrophysiology
Under supervision of Andrew Pruszynski & Jorn Diedrichsen

- IPM School of Cognitive Sciences — Institute for Research in Fundamental Sciences - Tehran, Iran
Research Assistant — *July 2022 – March 2023*
Investigating how visual search parameters and efficiency of the search are encoded by the single neurons of the prefrontal cortex in Macaques using single electrode recording
Under supervision of Ali Ghazizadeh

- 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 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
- **Sequential planning is not always associated with a reaction time cost**
A. Panjehpour, M. Kashefi, J. Diedrichsen, A. Pruszynski
NCM 2024 - Dubrovnik
- **The quality of visual entrainment correlates with forward/backward traveling wave properties in human cortex**
M. Lahijanian, **A. Panjehpour**, H. Aghajan
AAIC 2023 - Amesterdam

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

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Skills

Programming/ Computing Skills: • Matlab • Python • Pytorch • EEGLab • C/C++ • HTML/CSS
Other Skills: • Git • LaTeX• Pyschtoolbox • Arduino
Language Skills: • Farsi (*mother tongue*) • English (*TOEFL 99*)

Professional & Community Activities

Teaching Assistant

- Advanced Topics in Neuroscience – M.Sc. course — Spring 2023
- Foundations of Neuroscience – B.Sc. course — Fall 2023
- Computational Intelligence – B.Sc. course — Fall 2023
- Signals and Systems – B.Sc. course — Spring 2022
- Neuroscience of Learning and Cognition – M.Sc. course — 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

Selected Academic Courses

Graduate Courses

• Principles of Neuroscience (Neuro 9500) [88/100] • 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] • Neruoscience Lab [N.S]