Armin Panjehpour *Feb 21, 2001*

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University of Western Ontario • London, Canada

Education

University of Western Ontario — London, Canada
PhD 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
PhD Student — *Sep 2023 – Present*
Investigating the underlying mechanisms of movement sequence preparation and execution in humans and non-human primates
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 non-human primates
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** — *iScience, 2023*
M. Abbaszadeh, **A. Panjehpour**, MA. Alemohammad, A. Ghavampour, A. Ghazizadeh

Posters/Presentations

- **Sequence preparation is not always associated with a reaction time cost** — *NCM 2025 - Panama City*
A. Panjehpour, M. Kashefi, J. Diedrichsen, A. Pruszynski

- **Sequential planning is not always associated with a reaction time cost** — *NCM 2024 - Dubrovnik*
A. Panjehpour, M. Kashefi, J. Diedrichsen, A. Pruszynski

- **Sequential planning is not always associated with a reaction time cost** — *NRD 2024 - London, ON*
A. Panjehpour, M. Kashefi, J. Diedrichsen, A. Pruszynski

- **The quality of visual entrainment correlates with forward/backward traveling wave properties in human cortex** — *AAIC 2023 - Amesterdam*
M. Lahijanian, **A. Panjehpour**, H. Aghajan

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 [18.4] • Neruoscience Lab [19.1]