Mojan Izadkhah

The University of British Columbia
✉ mojaniz@student.ubc.ca • mojanizadkhah.github.io • linkedin • gitlab

Education

The University of British Columbia — **Vancouver, Canada**
M.A.Sc. in Neuroscience — *Sept.2022 - now*

Sharif University of Technology — **Tehran, Iran**
B.Sc. in Electrical Engineering, GPA: 3.73/4 — *Sept.2017 - July.2021*

Young Scholars Club — **Tehran, Iran**
Official Preparation Course for National Mathematics Olympiad — *Summer.2016*

Farzanegan High School — **Tehran, Iran**
Diploma in Mathematics and Physics Discipline, GPA: 4/4 — *2013–2017*

Research Experience

Functional organization of face responsive regions in lateral prefrontal cortex
Neuroimaging, fMRI signal processing, Supervised by Reza Rajimehr at the University of Cambridge — *Summer.2021*
We are investigating some new face-selective areas to understand their roles in face processing, using the Human Connectome Project dataset.(*Our abstract won the OHBM 2022 travel award*)

Analysis of rhesus macaque's social behavior in the wild
Behavioral Neuroscience, Network Analysis, Supervised by Hamid R. Noori at MIT — *Fall.2021*
I am investigating the social behavior of 76 monkeys, recorded by cameras in the period of 8 years using network theory measures.

Investigating value memory using visual stimuli in virtual reality environment
Cognitive Neuroscience, Sharif Neuroscience Laboratory — *Spring.2021*
We recorded subjects' EEG signals and their performance while playing in a virtual reality environment (implemented for this purpose), in order to investigate value association in humans.

Classifying depression patients and normal subjects using EEG signals
EEG signal processing, Atieh Neuroscience Clinical Center — *Summer.2020*
I Extracted features from EEG signals taken from clinical patients and classified them with neural networks.

Evaluation of auditory attention using EEG signals when performing motor and visual tasks
EEG signal processing, Sharif University Human & Machine Interfaces Laboratory — *Summer.2019*
In order to model the human auditory system and evaluate auditory attention while doing visual or motor tasks(using EEG, eye-tracker, and the glove), we defined different tasks so that we could measure the subject's attention and the brain's response to unexpected events and also find brain source localization.

Awards and Honors

Konkur — **Ranked top 0.3%**
National Mathematics and Physics University Entrance Exam with 148,429 candidates — *Summer.2017*

IMO — **Bronze Medal**
Iranian Mathematics Olympiad, Ranked top 1% — *Summer.2016*

IGO — **Silver Medal**
Iranian Geometry Olympiad, Ranked 5th among 851 students from 30 countries — *Summer.2016*

Khwarizmi Awards — **Semifinalist**
National Science Competition(*Mathematics Group*) — *Spring.2016*

IGO — **Gold Medal**
Iranian Geometry Olympiad, Ranked 1st among 50 students — *Summer.2014*

National Organization for Development of Exceptional Talents
Got accepted in the national high school of exceptional talents entrance exam — *Fall.2013*

Course Projects

Registration of Spinal Cord MRI
Image Registration, Medical Image Analysis & Processing, final project *Spring.2021*
Using the CPD algorithm, I explored different solutions in order to improve performance of the algorithm on real world data and decrease interpenetration of spine's mid-registration.

Further Analyses & Comparison of Different Modes of Decision-making
EEG signal processing, Foundations of Neuroscience, final project *Winter.2020*
Using available data from Libet experiment, we conducted more investigation to test our hypothesis about the basis of the decision-making process in the human brain.

Forecasting stock market prices
Machine Learning (Python), Introduction to Machine Learning, final project *Fall.2020*
Using statistical parameters and special python libraries such as fasti, ARIMA, and prophet, I implemented machine learning algorithms to forecast the future values of the given data.

Investigating an fMRI signal
Machine Learning (Matlab) *Fall.2020*
I analyzed and labeled recorded fMRI data with different machine learning approaches.

Teaching Experience

University of British Columbia, Department of Psychology:
- Teaching assistant in PSYC 277, *Fall.2022*

Sharif University of Technology, Department of Electrical Engineering:
- Teaching assistant in EEG Signal Processing, *Fall.2021*
- Teaching assistant in Foundations of Biomedical Engineering, *Fall.2021*
- Teaching assistant in AI & Biological Computations, *Fall.2021*
- Teaching assistant in Machine Learning,*Spring.2021*
- Teaching assistant in Engineering Statistics & Probabilities, *Fall.2021 & Spring.2021*
- Teaching assistant in Data Structure & Algorithm, *Spring.2021*
- Teaching assistant in Computer architecture & Laboratory, *Spring.2021 & Fall.2020 & Spring.2020*

Farzanegan 1 High School:
- Teaching Mathematics Olympiad, *Spring.2018*

Related Attended Courses

- EEG Signal Processing (*M.Sc.*)
- Neural Networks (*M.Sc.*)
- Foundations of Biomedical Engineering
- AI & Biological Computations
- Probability & Statistics
- Medical Image Analysis & Processing (*M.Sc.*)
- Foundations of Neuroscience
- Introduction to Machine Learning
- Digital Signal Processing
- Signals & Systems

Skills

English: Advanced, TOEFL IBT:(104/120)(Reading:28, Listening:30, Speaking:22, Writing:24)

Programming Languages: Matlab, Python, C/C++, Assembly Mips

Familiar with: LaTeX, TeX, Unity, Comsol Physics, Altium, Simulink, git, HTML

Other Activities

Sharif University Mountain Climbing Group: Leader of two mountain climbing trips; Duna summit(3674m) & Sarkooh summit(2545)

Resana(Main Association of Electrical Engineering): Member of the Central Council

Sharif University Mountain Climbing Group: Member of Main Committee

IGO 2019 (Iranian Geometry Olympiad): Member Executive Team

IGO 2018 (Iranian Geometry Olympiad): Member of Grading Team