

# Sara Rostami

M.Sc. Student of Neuroscience  
University of Western Ontario, London, Canada

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Website  
GitHub Profile  
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## EDUCATION

- **Master of Science in Neuroscience (Machine Learning Specialization)** *Sep 2025-Present*  
*University of Western Ontario, Canada*
- **Master of Science in Artificial Intelligence and Robotics** *Sep 2021-2024*  
*University of Tehran, Iran* GPA: 19.12/20
- **Bachelor of Science in Computer Engineering** *Sep 2016-2021*  
*Babol Noshirvani University of Technology, Iran* GPA: 17.38/20

## TECHNICAL SKILLS

**Programming Languages::** Python(Advanced), MATLAB(Advanced), R(Proficient), SQL(Proficient), Java(Familiar)

**Development Tools and Frameworks::** Git, PyTorch, TensorFlow, Scikitlearn, Psycopg2, NumPy, Pandas, Selenium, BeautifulSoup, Matplotlib, Seaborn, plotly, SciPy, EEGLAB, FieldTrip, PsychoPy, MNE, etc.

## RESEARCH EXPERIENCE

- **Research Assistant** *Sep 2025 – Present*  
*Mohsenzadeh Lab, University of Western Ontario, Canada*
  - Collection of EEG and fNIRS data
  - Preprocessing multimodal neural data using MATLAB
  - Conducting statistical analyses to identify neural correlates of cognitive processes
  - Designing and training artificial neural network (ANN) models based on experimental findings
- **Research Assistant** *Aug 2022 - Aug 2025*  
*Convergent Technologies Research Center, University of Tehran, Iran*
  - Part of the *Neural Adaptation Project*
  - EEG data acquisition with 128-channel EEG cap
  - Preprocessing EEG data using EEGLAB and FieldTrip
  - Applying pattern recognition and statistical techniques to preprocessed data
- **Research Intern** *Aug 2022 - Feb 2023*  
*Genzel lab, Donders institute for brain, cognition and behavior, Netherlands*
  - Part of the *Systems Consolidation During Sleep Project*
  - Applied Data Preparation, Wrangling and Visualization techniques
  - Applied ML algorithms to clean data for classification

## SELECTED PROJECTS

- **Investigating the Role of Repetition and Expectation in vMMN** [link](#)
  - Collecting 128-channel EEG Data from 15 subjects
  - Preprocessing EEG data with EEGLAB
  - Applying Multivariate Pattern Analysis (MVPA) method
- **Investigating the Robustness and Interpretability of a Deep Learning Model** [link](#), [link](#)
  - Explored model robustness by applying adversary attacks using the Fast Gradient Method
  - Employed Deep SHAP and LIME techniques to investigate model interpretability
- **Cryptocurrency Price Prediction and Analysis Using Machine Learning** [link](#)
  - Collected and preprocessed historical cryptocurrency data using Selenium
  - Built and evaluated machine learning models to predict Bitcoin price trends
  - Applied feature engineering and dimensionality reduction to optimize accuracy
- **Descriptive Data Analysis of Hate Crime** [link](#)
  - Conducted EDA to uncover trends in crime types, victim demographics, and geographic patterns
  - Generated insights to identify major bias motivations and provided visualizations for actionable reporting
- **Design and Analysis of a Database for Birth Statistics in Iran** [link](#)
  - Designed a PostgreSQL database to store birth statistics in Iran from 2012 to 2021

- Querying the database using Psycopg2
- Connecting PostgreSQL to QGIS via PostGIS for visualizing geographic Data
- **Comparative Study of Image Generation with Stabilized DCGAN and ACGAN** [link](#)
  - Implemented DCGAN and ACGAN for image generation based on referenced papers
  - Applied Stabilizing techniques
- **Process Mining of Patients Data and Business Analytics of Customer Data** [link](#)
  - Analyzed patient treatment processes using real-world datasets
  - Visualized results with Histograms, bar plots, dot plots and heatmaps
  - Performed customer retention analysis using retention rates and cohort visualizations
- **Comparative Study of Standard ML Algorithms on Music Genre Classification** [link](#)
  - Collected music pieces from 5 different Iranian Instruments
  - Applied dimensionality reduction techniques
  - Applied ML clustering & classification algorithms

## TEACHING EXPERIENCE

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- **Teaching Assistant, Computational Neuroscience Summer School** *Summer 2025*  
*Neuromatch Academy*
  - Project TA (Summer 2025)
  - Regular TA (Summer 2023)
- **Teaching Assistant for Master's Courses** *Spring 2023*  
*University of Tehran, Iran*
  - Statistical Inference
  - Introduction to Cognitive Neuroscience

## LICENSES & CERTIFICATIONS

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- **Computational Neuroscience Summer School** *2022–2025*  
*Neuromatch Academy*
  - **Project Teaching Assistant (2025)** – Assisted students with dataset handling and project development [Certificate](#)
  - **Regular Teaching Assistant (2023)** – Mentored students during tutorials and projects [Certificate](#)
  - **Student (2022)** – Completed tutorials and final group project [Certificate](#)

## HONORS AND AWARDS

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- **Western University Graduate Funding Package** *2025–2027*  
*Competitive funding award valued at \$36,950 per year for two years, Western University, Canada*
- **Vector Institute Research Grant** *2025–2026*  
*\$4,000 grant for graduate students of Vector-affiliated faculty, recognizing excellence in AI research potential*
- **Top Ranked among Master's Students** *2024*  
*Ranked 3<sup>rd</sup> in Artificial Intelligence and Robotics Major, University of Tehran, Iran*
- **Ranked 98<sup>th</sup> in Master's Entrance Exam** *2021*  
*Accepted into the University of Tehran as one of 18 students selected from over 14,000 participants*

## LANGUAGES

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**Farsi** (Native)  
**English** (Fluent) - TOEFL score: 110/120 (*R: 28, L: 29, S:30, W:23*)