Yasaman Mohammadpour

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RESEARCH INTERESTS

- Artificial Intelligence
- Data Science
- Cognitive Science
- Machine Learning
- Natural Language Processing
- Human-Computer Interaction

EDUCATION

Arizona State University　　　　　　　　　　　　　　　　　　ARIZONA, USA
M.Sc. in Psychology (Interdisciplinary Focus on Data Science)　*Spring 2024 – Spring 2025*
GPA: 4 out of 4

- Relevant Coursework: Behavioral Data Science, Quantitative Analysis, Professional Issues in Psychology, Cognitive Science, Research Methods, Advanced Social Psychology

University of Tehran　　　　　　　　　　　　　　　　　　TEHRAN, IRAN
B.Sc. in Statistics　　　　　　　　　　　　　　　　　　*2017 – 2022*
GPA (Last 3 Years): 17.57/20 (4 out of 4)

- Faculty Average GPA is 13.22
- Relevant Coursework: Regression, Continuous Multivariate Methods, Computational Statistics, Discrete Multivariate Methods, Time Series, Design of Experiment, Sampling Methods, Probability, Fundamentals of Numerical Analysis, Mathematical Statistics, Strategic Games, Fundamentals of Computer Science and Programming, Advanced Programming, Mathematics Analysis, Differential Equation

RESEARCH EXPERIENCE

Research Assistant, SHaDE Lab, ASU　　　　　　　　　　　ARIZONA, USA
Supervisor: Dr. Ariane Middel　　　　　　　　　　　　*Spring 2025 - present*

- **Project:** Conducting real-time thermal comfort research, integrating MaRTiny sensor and airport weather data to estimate Mean Radiant Temperature (MRT) using physics-based models, applying machine learning interpolation to improve temperature mapping accuracy and spatial coverage.

Research Assistant, SHaDE Lab, ASU　　　　　　　　　　　ARIZONA, USA
Supervisors: Dr. Bjoern Hagen, Dr. Ariane Middel　　　　　　*Spring 2025*

- **Project:** Assessing Heat Mitigation Potential of Various Urban Tree Species in an Arid Climate (ASU Tempe Campus)
- Conducted statistical analysis in R to evaluate how tree traits and ground cover impact MRT reduction.

Research Assistant, Emotion, Culture & Psychophysiology, ASU　　ARIZONA, USA
Advisor: Dr. Nicholas Duran, Co-Advisor: Dr. Nicole Roberts　*Summer 2024 - present*

- **Thesis:** Enhancing Stress Detection Through Dynamic Mapping of Physiological Signals and Feature Engineering Using Wearable Data and Deep Neural Networks
- Designed and implemented a stress detection system using wearable device data and deep learning, focusing on real-world data preprocessing and data wrangling, interpolation, noise reduction, feature engineering, and robust machine learning models.

Research Assistant, Cognition, Behavior and Information Lab, ASU　ARIZONA, USA
Advisor: Dr. Nicholas Duran　　　　　　　　　　　　　*Spring 2024*

- **Project:** Analyzing Linguistic Interactions With Generalizable Techniques, A Python Library (assessing and updating ALIGN library with LLMs: GPT, RoBERTa, LLaMA).

Research Assistant, University of Tehran TEHRAN, IRAN
    Adviseor: Dr. Hedieh Sajedi *Fall 2021 – Spring 2022*

- **Thesis:** Applications of Artificial Intelligence in Ophthalmology
- Examined ethical considerations of Artificial Intelligence in Medicine and Ophthalmology.
- Developed AI systems for diagnosing Anterior Segment Diseases.

PUBLICATIONS

- **Scalable and Robust Thermal Comfort Sensing: A Machine Learning and Computer Vision Extension of the MaRTiny**, *A. Middel, Y. Mohammadpour, et al.* [Manuscript]

- **Sentiment and Social Signals in the Climate Crisis: A Survey on Analyzing Social Media Responses to Extreme Weather Events**, *P. Shaeri, Y. Mohammadpour, et al.* [Under Review]

- **Dynamic Mapping of Physiological and Perceived Stress States: A Heart Rate Variability Study with Police Cadets Using Wearable Trackers**, *N. Duran, Y. Mohammadpour, N. Roberts, et al.* [Manuscript]

- **Assessing Heat Mitigation Potential of Various Urban Tree Species in an Arid Climate**, *B. Hagen, Y. Mohammadpour, et al.* [Manuscript]

ACADEMIC TEACHING EXPERIENCE

Teaching Assistant, University of Tehran TEHRAN, IRAN
    Mathematical Analysis 1 *Spring 2021*

Teaching Assistant, University of Tehran TEHRAN, IRAN
    Continuous Multivariate Methods 1 *Spring 2021*

- Supervised students in project research and development.

Teaching Assistant, University of Tehran TEHRAN, IRAN
    Differential Equations *Spring 2022*

Teaching (over 2 years experience), Pre-University Level TEHRAN, IRAN
    Mathematics and Statistics *Fall 2017 – Fall 2019*

- Taught over 20 private classes in Mathematics and Statistics.

SKILLS

- **Programming Languages**: Python (Proficient), R Program (Proficient), MATLAB (Proficient), MINITAB (Proficient), SAS (Statistical Software), SPSS, STATA

- **Machine Learning & Data Science**: LLMs, PyTorch, TensorFlow, Scikit-learn, Numpy, Pandas, Matplotlib, Jupyter Notebooks

- **Specialized Area**: Data Analysis, Data Science, Machine Learning, Data Mining, Deep Learning (including LLMs), Data Processing, Neural Networks, Psychological Assessment, Feature Design and Engineering.

- **Research Skills Concepts**: Data Preprocessing, Data Visualization, Sentiment Analysis, Supervised / Semi-Supervised / Unsupervised Learning, Reinforcement Learning, Dimension Reduction, Large-scale Model Training

- **Typesetting**: LaTeX, TeX, Microsoft Office, Google Docs.

- **Operating Systems**: Windows, Ubuntu.

SELECTED COURSE PROJECTS

Predicting Parolee Recidivism SPRING 2024
- Using Logistic Regression, Feature Engineering, Visualization.
- Analysis and interpretation of the dynamics of criminal behavior and rehabilitation.

Predicting Toxic Comment Classification Analysis   Spring 2024
- Using Logistic Regression, K-Nearest Neighbors, and Naive Bayes.
- Enhanced analysis with cross-validation and tf-idf embeddings.

Speech-based PTSD Prediction   Spring 2024
- Processed text data using NLP techniques (stopwords, lemmatization, sentiment via transfer learning) and classified PTSD discussions with ML models including Naive Bayes, Logistic Regression, Random Forest, and Neural Networks.

Unsupervised Market Segmentation Clustering Analysis   Spring 2024
- via Elbow Method and Silhouette Scores.
- Employed k-means and hierarchical clustering techniques on mall customer data.

The Performance of Knowledge-based Enterprises in Covid-19 Pandemic   Fall 2021
- Analyzed the strategic performance of knowledge-based enterprises during the pandemic.

Application of Neural Networks in Game Theory   Fall 2021
- Developed and analyzed neural network models to optimize game theory strategies.

PRESENTATIONS AND CERTIFICATES

ASU Digital Health Summit Poster   *Spring 2025*, ASU
- Presented a research poster on physiological and statistical stress detection using wearable device data.

Brown Bag Colloquium   *Fall 2024*, ASU
- Presented an ongoing project on stress detection using Fitbit and textual survey data.

**RCR - Graduate Student Researcher Responsible
Conduct of Research from CITI Program**   *Spring 2024*, ASU

Conflicts of Interest from CITI Program   *Spring 2024*, ASU

IBR-Social Behavioral Research from CITI Program   *Spring 2024*, ASU

Leadership of the Open-Door Event   *Spring 2024*, ASU
- Led the organization and execution of a lie detection event, directing setup and coordination across three lab areas.

Principles of Economics Microeconomics   *Spring 2020*, UT
- Learned about the fundamental principles to make predictions about how individuals behave in certain situations involving economic or financial transactions.

HONORS AND AWARDS

- Selected as the only master's student judge at the Arizona Psychology Undergraduate Research Conference (AZPURC) to evaluate undergraduate presentations, *ASU, Spring 2025*.
- Recipient of Full Bachelor's and Master's Tuition Waiver Fellowship, *ASU and UT, Fall 2017 - Spring 2025*.
- Ranked among Top 2% for two consecutive years, Department of Statistics for Graduate Study, *UT, Spring 2020 - Spring 2022*.

REFERENCES

- **Dr. Nicholas Duran**, School of Social and Behavioral Sciences, Arizona State University
  Email: nduran4@asu.edu
- **Dr. Nicole Roberts**, School of Social and Behavioral Sciences, Arizona State University
  Email: nicole.a.roberts@asu.edu
- **Dr. Ariane Middel**, School of Computing and Augmented Intelligence, Arizona State University
  Email: ariane.middel@asu.edu