HESAM AZADJOU

Graduate Intern, 3710 McClintock Ave, Los Angeles, CA | 213-224-5076 | azadjou@usc.edu | www.linkedin.com/in/hesamazj

EDUCATION

University of Southern California — Los Angeles, CA
Ph.D. — August 2021-Present
- GPA: 3.95/4

University of Southern California — Los Angeles, CA
M.Sc. — August 2021-December 2022
- GPA: 3.93/4

EXPERIENCE

University of Southern California — Los Angeles, CA
PhD Candidate — August 2021-Present
- Conceptualized and implemented biologically inspired learning methods alongside hardware implementation for robotic bipedal and quadrupedal locomotion and artistic performance.
- Researched non-linear dynamics and motor control strategies in professional athletes, analyzing techniques of 14 national-level archers.
- Studied motor control in 10 participants with drop foot, using dimensionality reduction to identify deficiencies and recommend interventions.
- Designed and trained an automatic non-invasive ECG arrythmia detector using meta learners, achieving an F1-score exceeding 96% on PhysioNet's dataset.
- Characterize the task-dependent whole-brain networks for hand manipulation using fMRI analysis of 10 TBI patients.
- Develop efficient multimodal disambiguation of epileptic vs. psychogenic seizures using computer vision and brain signal analysis.
- Data acquisition and analysis of muscle signals from over 15 stroke survivors and 15 age-matched controls to better understand pathological synergies.
- Develop and apply AI techniques (including but not limited to variational autoencoders, transformers, graph neural networks, and MLP mappers) to study latent dynamics and communication strategies of motor control in non-human primates.
- Published 3 high-impact journal papers, 2 preprints, and 2 papers are currently under review. Additionally, 3 papers are under submission.
- Mentored 7 graduate interns, 2 undergraduates, and 1 high school student from various backgrounds.

NSF DARE-Transforming modeling in neurorehabilitation — Los Angeles, CA
Presentation Team Leader — January 2023-March 2023
- Led the strategic planning and coordination of logistics for over 120 posters and presentations, ensuring smooth execution and effective event management
- Provided comments for deep learning materials related to transformers application in neurorehabilitation in the final paper and was acknowledged

Vahdat Comprehensive Center for Rehabilitation and Psychiatry — Tehran, Iran
Data Science Intern — May 2020-August 2020
- Analyzed rTMS therapy's impact on brain connectivity of 32 patients with bipolar disorder employing graph-based modeling, enhancing predictive accuracy and contributing to significant clinical insights

SKILLS

- MATLAB (Expert), SQL (Experienced), C++ (Skillful), R (Skillful)
- Python (Experienced), TensorFlow, Keras, PyTorch, Scikit-learn, Sci-Py, OpenAI gym, OpenAI baselines, Numpy, Pandas, SciPy, Matplotlib, MuJoCo
- Feature Extraction, Unsupervised Learning, Reinforcement Learning, Deep Learning
- Graph Neural Networks, Data Structure, Filtering, Adaptive Filtering, Data Cleaning
- Non-linear Dynamics Analysis, Trend Analysis, Synchronization Analysis
- English (Fluent), Persian (Native), German (Basic), Arabic (Basic)