Amirmohammad Mohammadi

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EDUCATION

Texas A&M University, College Station, Texas — May 2027 (anticipated)
Doctor of Philosophy in Computer Engineering, GPA: 3.75

Sharif University of Technology, Tehran, Iran — February 2021
Master of Science in Electrical Engineering

University of Tabriz, Tabriz, Iran — September 2018
Bachelor of Science in Electrical Engineering

JOURNAL PAPERS

1. Sel, K., **Mohammadi, A.**, Pettigrew, R. I., & Jafari, R. (2023). Physics-informed neural networks for modeling physiological time series for cuffless blood pressure estimation. *Nature NPJ Digital Medicine*, 6(1), 110. [link]
2. **Mohammadi, A.**, Fakharzadeh, M., & Baraeinejad, B. (2022). An integrated human stress detection sensor using supervised algorithms. *IEEE Sensors Journal*, 22(8), 8216-8223. [link]

EXPERIENCE

Graduate Research Assistant, Advisor: Prof. Joshua Peeples — January 2024 – Present
Texas A&M University, College Station, Texas

- Developed feature engineering for audio/time-frequency data to improve performance of AI models.
- Introduced a parameter efficient transfer learning method for foundation audio transformer models.

Graduate Research Assistant, Advisor: Prof. Roozbeh Jafari — September 2022 – December 2023
Texas A&M University, College Station, Texas

- Developed AI models for physiological time-series signals analysis and prediction.
- Devised physics-informed neural networks for cardiovascular dynamics with reduced ground truth.

Graduate Student, Advisor: Prof. Mohammad Fakharzadeh — July 2019 – February 2021
Sharif University of Technology, Tehran, Iran

- Developed low-power sensor for human mental stress diagnosis using supervised algorithms.
- Designed the schematics and PCB, programmed the microcontroller, conducted the data collection.

COMPUTATIONAL SKILLS

Python ● PyTorch (Lightning) ● Signal Processing ● Machine Learning ● Deep Learning ● Data Mining

PREPRINTS

1. **Mohammadi, A**., Masabarakiza, I., Barnes, E., Carreiro, D., Van Dine, A., & Peeples, J. Investigation of Time-Frequency Feature Combinations with Histogram Layer Time Delay Neural Networks. [link]

2. **Mohammadi, A**., Kelhe, T., Carreiro, D., Van Dine, A., & Peeples, J. Transfer Learning for Passive Sonar Classification using Pre-trained Audio and ImageNet Models. [link]

POSTER PRESENTATIONS

1. **Mohammadi, A.**, Masabarakiza, I., Barnes, E., Carreiro, D., Van Dine, A., & Peeples, J. (2024, April). Investigation of Time-Frequency Feature Combinations with Histogram Layer Time Delay Neural Networks. Poster session presented at the *Electrical & Computer Engineering Graduate Spring Poster Event*, College Station, TX.
2. **Mohammadi, A.**, Sel, K., Pettigrew, R. I., & Jafari, R. (2023, October). Physics-Informed Neural Networks for Modeling Cardiovascular Dynamics. Poster session presented at the *2023 AI in Health Conference*, Houston, TX.

PROFESSIONAL SERVICE

2024 IEEE International Conference on Acoustics, Speech, and Signal Processing Fall 2023

Helper/Area Chair - Applied Signal Processing Systems

- Invited, assigned, and managed the peer-review process.

2023 IEEE International Conference on Acoustics, Speech, and Signal Processing Spring 2023

Reviewer

- Conducted reviews of three submitted papers.

TEACHING EXPERIENCE

Sharif University of Technology, Tehran, Iran Fall 2019

- Graded the assignments of Principles of Electronics course and resolved the disputes