

Amirmohammad Mohammadi

College Station, Texas • (979) 436-5736 • amir.m@tamu.edu • Scholar • LinkedIn • Website

PROFILE SUMMARY

Ph.D. researcher with 4½ years of grant-funded work applying machine learning to digital health, remote monitoring, and wearables; first author of four peer-reviewed papers.

EXPERIENCE

Texas A&M University, College Station, Texas

September 2022 – Present

Research Assistant

- **Reduced** trainable parameters by **40%** compared to adapters in parameter-efficient transfer learning of Transformer models by proposing a histogram-based method, while maintaining baseline accuracy.
- **Raised** DeepShip classification accuracy **7 pp** by designing a spectrogram-based feature engineering.
- **Cut** required ground truth by a factor of **15** in Bio-Z signals with physics-informed neural networks.

Sharif University of Technology, Tehran, Iran

July 2019 – February 2021

Student Researcher

- **Engineered** a low-power ECG + EDA wearable that has a higher battery life (**3.5×**) compared to alternatives and delivers **94%** mental stress detection accuracy across 18 participants.

SKILLS

Python (PyTorch, TensorFlow, NumPy, Pandas, Matplotlib), Jupyter Notebook, Spyder.

EDUCATION

Texas A&M University, College Station, Texas

April 2027 (anticipated)

Doctor of Philosophy in Computer Engineering

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

PUBLICATIONS

- **Mohammadi, A.**, Carreiro, D., Van Dine, A., & Peeples, J. (2025). Histogram-based Parameter-efficient Tuning for Passive Sonar Classification. *PREPRINT*. [link]
- Ritu, J., **Mohammadi, A.**, Carreiro, D., Van Dine, A., & Peeples, J. (2025). Structural and Statistical Audio Texture Knowledge Distillation (SSATKD) for Passive Sonar Classification. *PREPRINT*. [link]
- **Mohammadi, A.**, Masabarakiza, I., Barnes, E., Carreiro, D., Van Dine, A., & Peeples, J. (2025). Investigation of Time-Frequency Feature Combinations with Histogram Layer Time Delay Neural Networks. *IEEE OCEANS*. [link]
- **Mohammadi, A.**, Kelhe, T., Carreiro, D., Van Dine, A., & Peeples, J. (2025). Cross-Domain Knowledge Transfer for Underwater Acoustic Classification Using Pre-trained Models. *IEEE OCEANS*. [link]
- 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]
- **Mohammadi, A.**, Fakharzadeh, M., & Baraeinejad, B. (2022). An integrated human stress detection sensor using supervised algorithms. *IEEE Sensors Journal*, 22(8), 8216-8223. [link]

POSTER PRESENTATIONS

- **Mohammadi, A.**, Masabarakiza, I., Barnes, E., Carreiro, D., Van Dine, A., & Peebles, 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.
- **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.

LEADERSHIP & SERVICE

Peer-Review and Conference Support:

- Served as a Helper/Area Chair for Applied Signal Processing Systems at IEEE ICASSP 2024, helping manage the peer-review process and reviewer assignments.
- Served as Reviewer for IEEE ICASSP 2023.

Research Mentorship:

- Guided an undergraduate student for development of a Diffusion Generative AI project.

Teaching Support:

- Graded coursework in Principles of Electronics, providing timely feedback.