Termeh Taheri

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Research Interests: Multimodal Machine Learning, LLMs, Audio Signal Processing

EXPERIENCE

AI Engineer, London College of Business Studies Jul 2025 - Present

- Developed and deployed Python-based backend and ML pipelines on AWS EC2 using FastAPI, PostgreSQL, and Docker, improving real-time system reliability and scalability.
- Integrated AI agents via FastAPI APIs for inference, logging, and context management across distributed containers.
- Developed production-grade ML infrastructure and data pipelines, supporting model evaluation and monitoring.

Software Engineer, Roshan Company Aug 2022 - Aug 2024

- Designed and maintained backend infrastructure for AI-driven applications using Python (Django, FastAPI), PostgreSQL, and Docker.
- Implemented optimized data structures and algorithms to improve performance and scalability in data ingestion and ML pipelines.
- Automated testing and deployment with GitLab CI/CD and Pytest.

PUBLICATIONS

Li, C., *et al.*, including **T. Taheri** (2026). *OmniVideoBench: Towards Audio-Visual Understanding Evaluation for Omni MLLMs.* Submitted to ICLR 2026 (under review). Link

Taheri, T., Ma, Y., & Benetos, E. (2025). SAR-LM: Symbolic Audio Reasoning with Large Language Models. *Proceedings of the 1st Workshop on Large Language Models for Music & Audio (LLM4MA), ISMIR 2025. Link*

Taheri, M., & Omranpour, H. (2024). Breast cancer prediction by ensemble meta-feature space generator based on deep neural network. *Biomedical Signal Processing and Control*, *87*, 105382. Link

Omranpour, H., Mohammadi Ledari, Z., & **Taheri, M.** (2023). Presentation of encryption method for RGB images based on an evolutionary algorithm using chaos functions and hash tables. *Multimedia Tools and Applications*, *82*(6), 9343-9360. Link

EDUCATION

MSc. Artificial Intelligence - Queen Mary University of London September 2025

Thesis: **SAR-LM: Symbolic Audio Reasoning with Large Language Models (**accepted at *LLM4MA Workshop, ISMIR 2025, oral*; under review at *ICASSP 2026*)

Advisor: Prof. Emmanouil Benetos

Grade: Distinction

B.Sc. Computer Engineering - Noshirvani University of Technology July 2022

Thesis: **Ensemble deep learning algorithm for medical image analysis**

Selected Projects

Demucs Stem Classifier — Training-free audio stem classification (vocals, drums, bass, other) using Demucs separation with energy-based confidence scoring; analyzed spectral and spatial cues for stem balance.

Audio Mix Reconstruction — Reconstructed master mixes from stems using ridge regression, reporting R^2/MSE and per-stem gains; evaluated perceptual fidelity and panning accuracy.

SOFTWARE PROFICIENCY

Python, C++, TensorFlow, PyTorch, Scikit-learn, Keras, Librosa, FFmpeg, Essentia, SciPy, OpenCV, NLTK, PostgreSQL, Docker, Linux, Celery, Pytest, FastAPI, ElasticSearch, Java, MATLAB, React, HTML, CSS

HONORS & AWARDS

Chevening Scholarship: Full scholarship recipient for MSc Artificial Intelligence, QMUL 2024–2025

Babol Noshirvani University of Technology: First place for the best bachelor project across all departments 2022

Research Grant (No P/M/1110): Supported publication in *Biomedical Signal Processing and Control* 2021