Reza Jahani

RezaJahanii | RezaJahani | rezajahanii.github.io | rjahani@ncsu.edu

Education

2025 - Present Ph.D. - Electrical Engineering — **NC State University** (GPA: 4.0/4.0)
2019 - 2024 B.Sc. - Electrical Engineering — **University of Tehran** (GPA: 3.92/4.0)

Work Experience

NC State University — Graduate Research Assistant Jan 2025 - Present

- Designing Decentralized Federated Learning frameworks(DFL) in Mobile Networks
- Submitted a conference paper, working on a journal paper.
- Investigated the impact of mobility on DFL, performed theoretical analysis, designed a DFL framework, and conducted extensive simulations on Unix servers. Developed optimization and machine learning skills.

Telecommunication Innovation Lab — Research Assistant July 2022 - Jan 2023

- Developed a deep learning method for direction of arrival estimation based on received signal of RF transmitters, outperforming state-of-the-art methods in accuracy and robustness.
- Designed a deep learning-based framework using CNNs and Attention modules inspired by the theoretical analysis of the problem. Implementation and simulations using Python.

Projects

Deep Learning Projects

- Developed a deep learning framework for surface detection from 6-channel signal.
- Designed a neural network based method for facial emotion recognition using FER dataset.
- Worked on a modified framework for real time object detection using YOLO models.
- Performed data pre-processing, designed neural network framework with PyTorch and Python.

Advanced Signal Processing

- Solved advanced signal processing and blind source separation problems.
- Implemented Independent Component Analysis, Dictionary Learning, Sparse Recovery, CSP filters..
- Audio Processing, EEG Signal Processing, etc. using MATLAB and signal processing toolbox.

Wireless Communication Systems

- Implementation of base-band and mid-band modulations, Narrow-band wireless channel simulation.
- OFDM system implementation using MATLAB.

Skills

Programming	Python, MATLAB, C, C++.
Knowledge/ Tools	Linux, Anaconda, Optimization, ML/ Deep Learning, Signal Processing.
Libraries	PyTorch, Keras, Numpy, Pandas, Scikit-learn, sklearn.

Last updated: October 9, 2025