Leo Yao

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Education

Carnegie Mellon University August 2024 – Present
B.S. in Statistics & Machine Learning and Computer Science *Pittsburgh, PA*

- **QPA:** 3.64/4.00
- **Relevant Coursework:** Principles of Imperative Computation, Introduction to Computer Systems, Principles of Functional Programming, Introduction to Computer Security, Matrices and Linear Transformations, Calculus in 3D, Probability and Statistical Inference I, Statistical Graphics and Visualization.

Experience

Research Assistant September 2025 - Present
FastML Lab *Pittsburgh, PA*

- Will conduct research on optimizing deployment of Graph Neural Networks on FPGA chips.
- Will contribute to development of hls4ml, a package translating PyTorch and Keras models to high level synthesis code for FPGA chips.

Machine Learning Researcher June 2025 – August 2025
CMU SPICE Lab *Pittsburgh, PA*

- Cleaned and preprocessed household energy use data with R Tidyverse, Pandas, NumPy, and SciKit-Learn.
- Developed an artificial neural network (ANN) in PyTorch to predict households' annual cooling energy, engineering a performance improvement of over 75% by implementing LightGBM-based feature selection and advanced hyperparameter tuning (e.g. learning rate annealing, early stopping).
- Created model performance graphics with MatPlotLib; presented graphics in a poster to peers.
- Managed codebase and tracked experiments using Git. Poster and code available upon request.

Leadership

Joint Funding Committee Member November 2024 – Present
CMU Student Government *Pittsburgh, PA*

- Managing the distribution and allocation of approximately $2.1 million to 300+ student organizations.
- Acting as a liaison between student organizations and Student Government, advocating for their financial needs during weekly JFC meetings.

Awards

Dean's List, High Honors (Spring 2025)

Projects

Computer Systems (in C language) *May 2025 – July 2025*

- Developed a dynamic memory allocator in C for the Linux Platform. Achieved 74.3% memory utilization and a throughput of 15885 KOPS (kilo-operations per second), ranking among the top of the class.
- Built a tiny Linux shell with job control and I/O redirection.
- Created a multithreaded web proxy server that facilitates communication between clients and web servers.

Skills

Programming Languages: Python, R, C, Java, Assembly
Frameworks/Libraries: Pandas, NumPy, SciKit-Learn, PyTorch, MatPlotLib, Tidyverse, ggplot2
Developer Tools: Git, Linux