Leo Yao

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Education

Carnegie Mellon University August 2024 – Present
B.S. in Statistics and 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

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

Data Science Researcher July 2023 - August 2023
UC Irvine COSMOS Program *Irvine, CA*

- Implemented and benchmarked several regression models (Linear, LASSO, Random Forest, etc.) to evaluate predictive accuracy and performance.
- Plotted results from each model with ggplot2, summarizing results in a project poster; presented poster at a research symposium to peers in the program and UCI faculty. Poster and code available upon request

Leadership

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

- Overseeing the distribution and management of approximately $2.1 million to 300+ student organizations.
- Personally advising 11 student organizations to secure thousands of dollars of key funding.
- Acting as a liaison between these organizations and Student Government, ensuring that their financial needs are adequately met by advocating for their concerns 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. Acheived 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