# 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, Probability and Statistical Inference I

## Experience

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

- Cleaned household energy consumption datasets with R Tidyverse; preprocessed data for model-training using Pandas, NumPy, and SciKit-Learn
- Developed an artificial neural network (ANN) in PyTorch to predict annual household 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).
- Generated graphics to display model performance with MatPlotLib, including them in a poster that was presented to peers. Poster and code available upon request

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

- Developed various regression models (Linear, LASSO, Linear + K-fold Cross Validation, Neural Network, Random Forest) in R to predict a person's brain grey matter content utilizing their physical factors.
- Compared RMSE of different models with each other, finding that traditional multiple linear models outperformed other models tested.
- 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*

- Created a write-back, write-allocate cache simulator that takes in various cache parameters from the command line and a trace file with a sequence of memory operations. Employs a Least Recently Used eviction policy.
- 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