

Minghan Sun

+1 (425) 269-4412 | sunmi@seas.upenn.edu | github.com/minghansun1 | minghansun.com | linkedin.com/in/minghansun1/

EDUCATION

University of Pennsylvania

August 2023 - May 2027

Bachelor of Science, Computer Science

GPA: 3.83/4.0

Relevant Coursework: Data Structures and Algorithms, Computer Programming, Discrete Math, Computer Systems, Automata/Computability/Complexity, Big Data Analytics, Databases and Information Systems

EXPERIENCE

Backend Engineer

September 2024 - Present

Penn Labs

Philadelphia, PA

- Developed a high-performance ecommerce feature for Penn's official student app, used by over 4000 students monthly
- Designed and deployed scalable API endpoints using Django to manage listings, offers, and messaging
- Utilized Redis, Kubernetes, and Celery to ensure reliability and scalability in deployment

Machine Learning Research Assistant

January 2024 - Present

University of Pennsylvania

Philadelphia, PA

- Implemented SHAP, LIME, and Anchor model explanation systems in the STREAMLINE AutoML pipeline
- Used by over 70 clinicians at Cedars Sinai Medical Center to understand their models' decision-making process
- Analyzed the performance of 5 popular explanation frameworks on different data patterns

Machine Learning Intern

July 2022 - August 2022

Pactera

Bellevue, WA

- Trained a machine learning model using PyTorch to detect gun violence from security camera video footage
- Applied object detection algorithms to classify people, handheld items, and posture

PROJECTS

SkyGazer (YHack Finalist) | *Flask, TypeScript, OpenAI API*

October 2024

- A web app to provide real-time ratings for stargazing conditions across the world, raising awareness for light pollution
- Used OpenWeather API and NOAA dataset for real-time cloud cover, visibility, light pollution, and elevation data.
- Built chatbot that interprets our algorithm's predictions and recommends nearby locations using OpenAI API

Algorithm Visualizer | *Django, React, JavaScript, PostgreSQL*

June 2024 - August 2024

- A full stack web app designed to help UPenn CS students understand algorithms taught in the Intro to Algorithms class
- Used React to support visualization of Mergesort, Quickselect, Binary Search, BFS, DFS, Dijkstra's Algorithm, etc.
- Developed Django REST API and PostgreSQL to store user data and respond to requests within 50 ms 95% of the time

Recipe Price Calculator | *Node.js, Redis, HTML, CSS*

April 2023 - May 2023

- A Spring web app to compute the price of a list of food ingredients using real world data to help users budget groceries
- Developed a Selenium web scraper to extract price data from Amazon.com's HTML data based on user input requests
- Implemented text relevance algorithms to select closest matching items from collected data

Operating System Simulator | *C*

April 2024

- An OS simulator which simulates the logic-gate level behavior of the LC4 operating system as Assembly code runs
- Achieved 100% accuracy during testing on real Assembly samples

SKILLS

Languages: Java, Python, C, C++, JavaScript, TypeScript, HTML, CSS

Technologies: Django, React, Flask, PostgreSQL, SQLite, MongoDB, Git, Docker, Kubernetes, Redis, Celery, CI/CD, Unix, AWS, Spring, Selenium, Axios, Pandas, NumPy, SciPy, Matplotlib, PyTorch, Scikit-learn, OpenCV, OpenAI API

AWARDS

- 4-time American Invitational Mathematics Examination Qualifier
- American Rocketry Challenge 2022 1st place, International Rocketry Challenge 2022 2nd place