Eric Wang

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Education

Yale University New Haven, CT

B.S. in Computer Science, Certificate in Data Science | GPA: 3.90/4.0 *Expected May 2027*

Technical Skills

Languages: Python, SQL, C, C++, HTML/CSS, Javascript, Racket, R

Skills: AI/ML, Computer Vision, Data Analysis, Data Structures/Algorithms, Object-Oriented Programming, Full-stack Programming

Frameworks/Tools: Pytorch, Torchvision, Git, Flask, Pandas, Numpy, Matplotlib, Linux

Relevant Experience

Undergraduate Teaching Assistant Aug. 2025- Present

Yale University *New Haven, CT*

- Assist in the instruction of 60+ undergraduates for mathematical concepts in relation to computer science, such as **proofs**, **discrete mathematics**, **graph theory**, and probability.
- Lead weekly discussion sections and office hours to help guide students through problem-solving strategies applicable to **algorithms** and computational thinking.
- Develop student mastery of core computer science material through clear feedback on assignments and preparation of supplemental material.

Undergraduate Research Assistant Mar. 2025 - Present

APOLLO Lab *New Haven, CT*

- Implement a **3-D reconstruction** algorithm in Python for endoscopic surgeries given limited access to camera poses.
- Utilize **Gaussian Splatting** and **SIFT** for fast visualization and rendering of 3-D visual scenes from surgical videos.
- Create an **optimization** algorithm for a scene reconstruction pipeline given various camera poses and intrinsics.

Computer Science Mentor Feb. 2025 - Present

Code Haven *New Haven, CT*

- **Instruct** a middle school class of 20 students in computer science through coding exercises and project-based learning.
- Introduce **foundational programming** concepts using Scratch, fostering problem-solving abilities and knowledge.
- Collaborate with a group of 25+ mentors to create structured learning plans that balance concepts with hands-on projects.

Projects

Albumized August 2025 - Present

Pytorch, Torchvision, FAISS, Numpy, Pillow

- Build an image-based album search engine using **PyTorch** and a pretrained **ResNet50** model to generate high-dimensional **image embeddings** for music album covers.
- Leverage **FAISS** for scalable neighbor search on image embeddings, enabling rapid retrieval of visually similar albums.
- Employ **Spotify API** to fetch and maintain consistent **metadata** through **JSON** files to be fetched alongside image outputs.
- Extract album thumbnails from **AWS S3** into a **Flask backend**, reducing local storage usage while maintaining fast access.

Nor'Easter Oct. 2023 - Dec. 2023

Python, Flask, SQLite, HTML/CSS

- Implemented **SQL** database of all ski resorts in New England and their statistics (location, elevation, number of trails), along with personalized accounts to create checklists of resorts users may want to visit.
- Designed a **Flask web app** that allows users to search for all possible resorts in the database and retrieve information.
- Established secure user authentication with **Flask-Login** and hashed password storage, managing sessions to support persistent user accounts.