

# Andrew Gao

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## Education

### Carnegie Mellon University

Pittsburgh, Pennsylvania

B.S. IN ELECTRICAL AND COMPUTER ENGINEERING

Aug 2021 - May 2025

- Minor in Computer Science
- Relevant Coursework:
  - Data Structures & Algorithms
  - Parallel & Sequential Algorithms
  - Probability and Computing
  - Great Ideas in Theoretical CS
  - Functional Programming
  - Structure and Design of Digital Systems

## Work Experience

### Diderot.one

Pittsburgh, Pennsylvania

SOFTWARE DEVELOPER

Jan 2023 - Present

- Course management system used by Carnegie Mellon and other universities. Features a custom LaTeX-based UI, assignment submissions, code autograding, comment/posts system, and more. Piazza, Gradescope, and Canvas rolled into one.
- Built and tested AI microservice which serves as a virtual teaching assistant for computer science courses using OpenAI's models. Deployed using FastAPI, Docker, AWS ECR.
  - Wrote script to anonymize all sensitive user information using regular expressions. Implemented basic autocorrect using Levenshtein distance.
  - Built pipelines for extracting, cleaning, and formatting data from PostgreSQL database to be used for fine-tuning OpenAI's GPT-3.0 model.

### Carnegie Mellon School of Computer Science

Pittsburgh, Pennsylvania

RESEARCH ASSISTANT

May 2023 - Present

- Working on job scheduler that amortizes carbon cost of manufacturing server-grade CPUs by extending their hardware lifecycle in data centers.
- Using DeathStarBench's service suite to compare tail latency of microservices across different hardware.
- Wrote scripts using Python, Docker CLI to automate setup and scaling of microservices on CPU nodes.

### Howe Technologies

Lake Zurich, Illinois

SOFTWARE ENGINEERING INTERN

Jun 2022 - Aug 2022

- Designed backend and wrote RESTful API endpoints for smart electric panel device using Express, Node.js.
- Implemented data validation, OAuth2.0 using PassportJS.

### Avenue Growth Partners

Washington, D.C.

SOFTWARE DEVELOPER INTERN

Mar 2022 - May 2022

- Partially automated company sourcing with Pandas, Numpy, Crunchbase API to find companies that adhere to Avenue Growth's investment thesis.
- Wrote Python script which manages company sourcing assignments using HubSpot CRM API.

### Carnegie Mellon Human-Computer Interaction Institute

Pittsburgh, Pennsylvania

RESEARCH ASSISTANT

Jan 2022 - May 2022

- Building software that allows for more accessible use of autonomous vehicles for the US Department of Transportation's (DOT) Inclusive Design Challenge.
- Developed React web app which fetches real-time data from Firebase to display vehicle ride information.
  - Coordinated workflows with design team to implement custom CSS components.

## Projects

### Community in Concert

SOFTWARE LEAD

- Platform that connects student musicians with senior living homes to host music recitals.
- Built website backend, frontend using React, Django, PostgreSQL. Deployed using Docker and AWS RDS, EC2.
  - Led 5-member team using Kanban method to build, test, and deliver features.

## Skills

**Technologies:** Python, C/C++, Javascript, Docker, AWS, Git, React, Django

**Languages:** English, Mandarin