

# Cassidy Diamond

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## Education

May 2025

**Carnegie Mellon University**, Pittsburgh, PA

GPA: 3.51/4.0

*Bachelor of Science in Computer Science; Dual Degree in Mathematics (Discrete Math and Logic)*

**Relevant Coursework:** Introduction to Cryptography (15356), Constructive Logic (15317), Natural Language Processing (11411), Fundamentals of Programming Languages (15312), Parallel Computer Architecture and Programming (15418), Algebraic Structures (21373), Algorithms (15451), Linear Algebra (21341)

## Work Experience

**Full Stack Developer and Researcher - Diderot**

May 2023 - Aug 2024

- Received \$550,000 in funding from NSF with Prof. Umut Acar, chosen as project Entrepreneurial Lead
- Created a virtual AI teaching assistant for university courses using generative large language models (**OpenAI, Django, Daphne, REST, AWS, PyTorch, NumPy, SciPy, nltk**)
- Built a frontend application for course management and chat messaging, available as a full website and as a widget (**TypeScript/React.js, AJAX, Websockets, NodeJS, HTML/CSS, Bootstrap**)
- Designed and managed enterprise-grade cloud infrastructure for web servers, API endpoints, load balancers, used by hundreds of students, thousands of daily API hits (**AWS, Sentry, Postgres, Docker**)
- Developed system to automatically gauge effectiveness of LLM responses using **nltk** and NLP methods
- Collaborated with AWS engineers, Duolingo, and Kleiner Perkins as part of startup development

**Chief Engineer - WRCT Radio Station**

May 2022 - May 2025

- Containerized and upgraded legacy programs with **Docker**, networked under an **Nginx** reverse proxy; migrated services to **Linux** cloud server
- Created **Bash, cron, and Python** scripts to automate radio tasks
- Integrated industry standard music charting software into **PHP/Wordpress** website following redesign
- Documented projects for future engineers, led engineering team, collaborated with community members
- Presented radio station infrastructure to engineers at Google Pittsburgh

**Software Engineer - Pin Up Posters Courier Collective**

October 2021 - November 2022

- Created and maintained web application to replace Google Suite with **Django, Mapbox GL JS**
- Delivered posters/handbills as a bike messenger, communicated with local businesses and nonprofits

## Skills

**Languages and Technologies:** Python, C, C++, PHP, Java, SML, Javascript / Typescript/ NodeJS, Lua, Unity, Django, Linux, Bash, Git, Adobe Photoshop, Adobe Illustrator, CAD, Vim, Ham Radio (KJ7ORR)

**ML Libraries:** PyTorch, TensorFlow, NumPy, SciPy, nltk, OpenAI / genAI tools, HuggingFace

**Frontend:** HTML, CSS, React.js, TypeScript, Javascript, AJAX, jQuery, WebSockets, Vue.js, Bootstrap

**Systems Administration/DevOps:** AWS (EC2, RDS, S3, Elastic Beanstalk, ElastiCache), Docker, Nginx, Certbot, Redis, Postgres, MariaDB, SQL, SMTP servers, DNS routing, Grafana, Sentry

## Projects

**WRCT Radio Music Database** | Django, Postgres, HTML/CSS, Docker, Perl

[db.wrct.org](http://db.wrct.org)

- Rebuilt 20+-year-old Perl music database from scratch, cataloging 100,000+ songs, artists, labels, and giving DJ's tools to collaboratively review new music. Closely integrated community feedback in design.

**C++ Parallel Raytracer** | C++, CUDA, OpenMP, MPI

[cassidydiamond.me/15418-project/](http://cassidydiamond.me/15418-project/)

- Designed, built, and parallelized a C++ Monte Carlo Raytracer. Utilized and analyzed multiple parallelization techniques, including CUDA, OpenMP, and MPI. Presented results in report format.

**Love Languages** | Python, Algorithm Design

[cassidydiamond.me/love-languages/](http://cassidydiamond.me/love-languages/)

- Created an esoteric programming language centered around algorithm design, then wrote a paper on it. Winner of the 2025 Frank-Ratchye Studio for Creative Inquiry [F.U.C.K.E.R.Y Award](#)