

# Cole Thompson

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## EDUCATION

### University of California, Irvine

Irvine, CA

*Bachelor of Science in Computer Science*

*Sep. 2021 – June 2025*

### Cumulative GPA: 3.88/4.0

*Dean's Honor List; Regents' Scholar; Hack at UCI*

### Relevant Coursework: Year 3

*Data Structures & Algorithms, Semi-structured Data & Advanced Data Modelling, Information Retrieval, Software Libraries*

## EXPERIENCE

### Full Stack Developer | Firecrest AI

May 2023 - Present

- Collaborated with 4 other developers to build a generative AI dashboard for this pre-seed stage startup as an unpaid project
- Developed the frontend in React and backend in Flask, integrating with a PostgreSQL database
- Designed and launched custom LLM configuration features, increasing model, token, and temperature flexibility through user-defined parameters
- Built prompt topic browser improving navigation for 80% of users and reducing average search time by 50%
- Incorporated OAuth 2.0 authentication and 2FA to securely manage 20+ user accounts
- Integrated large language models including OpenAI's GPT-4, Google's PaLM, and Anthropic's Claude through a unified interface for easy switching

### ICS Lab Assistant | University of California, Irvine

January 2023 – June 2023

- Supported and tutored 50+ students in building programs for a variety of problems and computing environments in Python
- Guided students in leveraging library modules for a range of applications including: graphics, databases, web APIs, networks and sockets
- Introduced and reinforced fundamental programming concepts and language features during office hours

## PROJECTS

### Search Engine and Web Crawler

April 2023 – June 2023

*HTML/CSS, Python, Flask, Beautiful Soup, NLTK, Hashlib*

- Designed a custom web search engine with the ability to handle 50,000+ documents under harsh operational constraints and having an average query response time under 100ms
- Incorporated partial indexing to save > 80% memory usage and made use of the Snowball Stemmer for better textual matches
- Improved ranking accuracy by 75% for a subset of the UCI web domain through tf-idf scoring and cosine similarity in addition to assigning weights for HTML tags
- Used sim-hashing to detect and eliminate near duplicate pages

### GUI Chat Application

January 2022 – March 2022

*Python, Tkinter, Git*

- Developed a DSP platform direct messaging module with a GUI using Tkinter
- Used my knowledge of the computer file system in order to store messages locally with other users (DSU files)
- Utilized sockets to be able to send and receive direct messages with another user

### PlateMate

February 2023

*Python, Swift, FastAPI*

- Created a recipe app utilizing Edamam's Recipe Search API and Swift
- Deployed backend services using Python and FastAPI for efficient data handling and processing
- Leveraged Xcode for app development, debugging, and deployment on iOS devices

## TECHNICAL SKILLS

**Languages:** Python, C++, HTML/CSS, JavaScript

**Developer Tools/Frameworks:** Git, React, Flask, Vim, Linux