Cole Thompson

colet0227@gmail.com | linkedin.com/in/cole-thompson-991682251 | thompsoncole.com | github.com/colet0227

SKILLS

Languages: Python, JavaScript, Java, C/C++, HTML/CSS, SQL
Tools/Platforms: Git, Vim, Linux, Docker, Kubernetes, AWS, Maven, Tomcat, Figma
Frameworks/Databases: React, Flask, Django, Node.js, Express.js, MongoDB, PostgreSQL, MySQL

EDUCATION

University of California, Irvine   **Irvine, CA**
Bachelor of Science in Computer Science   *Cumulative GPA: 3.91/4.00*
Regents' Scholar, Commit the Change, Hack at UCI, CodePath TIP103   *Sep. 2021 – June 2025*

Coursework: Data Structures & Algorithms, Semi-structured Data, Information Retrieval, Database Management

EXPERIENCE

Capital One   August 2025 – Present
Associate Software Engineer   *Mclean, VA*
- In progress...

Commit the Change   October 2024 – June 2025
Software Engineer   *Irvine, CA*
- Engineered a React-based web app for La Peña, a nonprofit hosting cultural events and workshops, streamlining invoice processing/event planning to reduce administrative hours by 60% and manage 50+ monthly events
- Built robust **RESTful** endpoints using **Node**, **Express**, and **PostgreSQL** to manage invoicing, room bookings, and client data, enabling seamless data integration and smoother operations
- Optimized invoice calculation logic to accurately apply booking-specific adjustments and automated billing processes, saving 10 hours per month of manual inventory management

University of California, Irvine   January 2023 – June 2023
ICS Lab Assistant   *Irvine, CA*
- Supported and tutored 50+ students in building programs across various computing environments in **Python**, guiding them in leveraging library modules for graphics, databases, web APIs, and network applications

PROJECTS

Firecrest.ai   May 2023 - September 2023
Python, Javascript, HTML/CSS, React, Flask, Langchain, Render, PostgreSQL, Git
- Generative AI dashboard implemented with **React** and **Flask**, integrated with a **PostgreSQL** database
- Designed and launched custom LLM configuration features using **Langchain**, increasing model, token, and temperature flexibility through user-defined parameters
- Built prompt topic browser to improve navigation and reduce average search time
- Added **OAuth 2.0** authentication and **2FA** to securely manage 50+ user accounts

Search Engine and Web Crawler   April 2023 – June 2023
Python, HTML/CSS, Flask, Beautiful Soup, NLTK, Hashlib, Git
- Designed a custom web search engine with the ability to handle 55,000+ documents and reduced average query response time to under 100ms by indexing token positions
- Incorporated **partial indexing** to save $> 85\%$ memory usage and used **Snowball Stemmer** for better textual matches
- Improved ranking accuracy 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

Fabflix   April 2024 – June 2024
Java, JavaScript, jQuery, AJAX, MySQL, Tomcat, Maven, Docker, Kubernetes, JMeter, AWS, Git
- Engineered a dynamic web application enabling users to browse, search, and purchase from a vast movie catalog hosting 20,000 movies and 70,000 actors
- Developed a robust architecture incorporating **Tomcat**, **Maven**, and **MySQL** along with **AWS EC2** for scalable compute resources and **HTTPS**, **reCAPTCHA**, and password encryption for security
- Ensured support for CRUD operations under users/administrators, integrating features including session-based cart checkout, full-text search with auto-complete, and SQL injection prevention via **PreparedStatements**
- Deployed the application on an AWS-based **Kubernetes** cluster using **Docker** containers, utilized **S3** for storage, and leveraged **JMeter** to identify performance bottlenecks/threading issues