David Chan

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EDUCATION

UNIVERSITY OF CALIFORNIA, IRVINE

BS in Computer Science
Information Specialization
Expected Graduation June 2025 | Irvine, CA
GPA : 3.85 / 4.0

CONTRA COSTA COLLEGE

June 2023 | San Pablo, CA
GPA: 4.0 / 4.0

COURSEWORK

Project in Databases and Web Apps
Project in Software System Design
Introduction to Data Management
User Interaction Software
Human Computer Interaction
Information Retrieval
Computer Networks
Project in Data Structures and Algorithms
Design and Analysis of Algorithms
Graph Algorithms
Machine Learning and Data Mining

SKILLS

PROGRAMMING LANGUAGES:

Python | JavaScript | C/C++
Java | SQL | C# | HTML/CSS

TECHNOLOGIES

NodeJS | ExpressJS | ReactJS
Flask | PostgreSQL | MySQL
AWS | Tomcat | Apache | Kubernetes
Postman | Jest | Bootstrap

ORGANIZATIONS

Alpha Epsilon Pi

AWARDS AND HONORS

Dean's Honor List (4x) | UCI
Bob and Barbara Kleist Award ($2500)
Dean's Honor List (4x) | CCC

RELEVANT EXPERIENCE

DOAH.ai | Software Engineer Intern on Trust and Safety

September 2024 - December 2024 | Irvine, CA
- Developed RESTful API endpoints to improve on user data aggregation and spam detection, **reducing spam registration by 15%**
- Enhanced the user validation system by integrating email, phone number, and IP address verification APIs to block disposable emails, detect spammy domains, and flag users with mismatched regional data
- Implemented a retry mechanism for internal API calls, preventing failures from halting data aggregation, ensuring seamless processing
- Unified user data from internal APIs, optimizing admin search tools and **reducing user lookup time by 66%**
- Automated browser interactions with Selenium WebDriver to simulate user actions for verify UI behavior on the admin page

Fabflix Movie Database Web App

March 2025 - June 2025 | Irvine, CA
- Built and deployed a full-stack Java web app from scratch on AWS (Tomcat/MySQL/Apache) handling a **50k+** record movie dataset
- Designed an ETL pipeline (XML parsing, index deferral, bulk CSV import into MySQL) that improved data processing by **~70%**
- Improved site throughput by **~50%** through MySQL connection pooling, MySQL replication, and Apache load balancing
- Developed dynamic frontend featuring session-based cart checkout, full-text search (backed by in-memory caching), and reCAPTCHA bot protection
- Containerized the application on a Kubernetes cluster spanning across several AWS instances

UCI Search Engine

March 2025 - June 2025 | Irvine, CA
- Constructed an inverted index from a large document collection into a nested folder tree structure for faster searching
- Performed an offline multi-way merge on partial indexes, eliminating loading the whole index into RAM
- Implemented boolean AND retrieval, TF-IDF ranking with cosine similarity, and HTML-tag weighting to compute relevance scores, returning the top-K results **in under 300 ms**

PERSONAL PROJECTS

Fishy Game | Personal Game Development Project

June 2023 - June 2023 | San Pablo, CA
- Developed a 2D game using C# in Unity Engine
- Designed a progression system where the player grows by eating smaller fish
- Implemented basic controls, game state management, and audio using Unity's built-in components and systems (Rigidbody2D, Collision2D, SceneManagement, AudioSource)