

# David Nguyen

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## Education

University of California, Irvine - GPA: 3.81 Dean's Honor List 2020-2024

2020 - 2024

- B.S. in Computer Science

## Technical Projects

### Smell You Later

May 2024

- Initiated a full-stack mobile application using React Native, Typescript, MongoDB, Python, FastAPI, and Google Generative AI to recommend personalized fragrance sets
- Engineered a K-means clustering algorithm on a dataset of 38,000 fragrances, predicting user preferences with high accuracy
- Integrated Google Generative AI API to summarize the notes of the recommended fragrances and enhance user experience

### DAMP Search Engine

April 2024 - May 2024

- Launched a scalable search engine with Python, HTML, CSS, and JS capable of handling 55,000+ documents
- Built an inverted index using BeautifulSoup, indexing over 2,000,000 tokens to efficiently answer search queries under 100ms using cosine similarity and PageRank
- Enhanced content summaries using the phi3 LLM for improved query relevance

### Personal Health Buddy

January 2024 - March 2024

- Designed a mobile app using React Native to collect user inputs and deliver tailored health recommendations
- Implemented a backend API using Python, FastAPI, MySQL, and AWS, supporting user authentication and data logging
- Developed 10+ API endpoints including user login, rest/food/exercise data retrieval, and data logging

### Fabflix

September 2023 - December 2023

- Deployed a full-stack RESTful API web application following a microservice architecture that allows users to browse, search, and checkout 1000+ movies using Java, JDBC, MySQL, Tomcat, HTML, CSS, JQuery, JS, and AWS
- Developed ~20 servlets with features such as cart checkout backed by sessions, secure login using SHA256 hashing, full-text-search, auto-complete backed by a cache, and bot detection using reCAPTCHA
- Improved website performance by 1500% through optimizations including MySQL connection pooling, MySQL replication, and Apache load balancing

### Mission Control: All Systems Go - NASA & ASU (Capstone Project)

January 2023 - June 2023

- Spearheaded the development of 1 of 4 minigames: "Among the Stars" using C# and Unity as part of a NASA & ASU collaboration
- Applied agile methodologies and feedback loops to deliver high-quality, stakeholder-approved results
- Collaborated with cross-functional teams to ensure seamless integration within the larger project

## Skills

**Programming Languages:** Python, C/C++, Java, C#, JavaScript, TypeScript, SQL

**Frameworks & Tools:** ReactNative, FastAPI, Unity, AWS (EC2), Docker, Tomcat, Django

**Databases:** MySQL, PostgreSQL, Cassandra, MongoDB, Couchbase, Neo4j, Spark (PySpark),

**Other:** Git, Spark (PySpark), JMeter, Agile Development, RESTful API Design, Documentation, Debugging, Object-Oriented Analysis and Design, Data Structures, SCRUM, AJAX, Design Patterns

**Soft Skills:** Analytical thinking, teamwork, communication, adaptability, attention to detail, problem-solving