

Patrick Nguyen

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EDUCATION

University of California Davis

Davis, CA

Bachelor of Science in Computer Science

Sept 2021 – Dec 2025

- Relevant Coursework: Database Management Systems, Operating Systems, Software Engineering, Data Structures

EXPERIENCE

Innovation and Research Lab at Davis | Software Engineer

Oct 2024 – Present

- Defined multi-schema relational database architecture including partitioning and indexing for performance optimization of **10 million** rows using sqlalchemy, psycopg2, and PostgreSQL through DBEaver
- Created the Brainfreeze 2025 website for UCD, using **React**, generating over **\$5000** in revenue
- Mentored **50+** students during Hack Nights, guiding them in building advanced personal projects

AggieWorks | Software Engineer

Sept 2024 – Present

- Shipped products serving over **38,000** students in an Agile environment, ensuring scalable and reliable solutions
- Achieved **50%** reduction in data processing time by containerizing a web scraper with **Docker**
- Conducted code reviews for pull requests, and maintained CI/CD pipelines with GitHub actions, reducing deployment errors by **20%**

Icarus Development | Software Engineer Intern

June 2024 – Sept 2024

- Reduced manual transcription by **6 hours** weekly, automating lecture transcription via Canvas integration
- Built a scalable **AWS S3**-based distributed data pipeline, ensuring secure and efficient video transcription storage
- Implemented secure authentication and efficient query handling to support over **100** transcription requests per day

Google Developer Student Club | Software Engineer

Oct 2023 – June 2024

- Collaborated with a group of 5 students to develop MERN-based wellness tracker with real-time health
- Configured and secured a **MongoDB** cluster to ensure efficient data storage with real-time updates

PROJECTS

Statify | *MongoDB, Express, React, Node.JS, Tailwind*

Aug 2024 – Oct 2024

- Built Scrapify, a **Spotify** API-powered web app for personalized playlist generation alongside displaying a user's top Spotify stats over different time periods with a personalized recommender feature
- Designed custom playlist cover images generated based on color gradients that reflect the playlist's mood
- Built a community feature to let users post playlists to a shared feed, enabling discovery and interaction with others' playlists, with rate limiting and caching, improving performance and reducing redundant requests to Spotify's API

AggieMenus | *Next.js, Docker, Python, PostgreSQL*

Sept 2024 – Present

- Developed AggieMenus, a web app centralizing UC Davis dining commons menus to simplify browsing and switching between dining hall locations, dates, and meal times, with a peak daily user count of **800** users
- Enhanced user experience by developing intuitive food filters and a favorites feature with post notifications, resulting in a **40%** increase in user engagement and significantly boosting user retention
- Built mobile responsiveness by integrating Supabase Edge Functions with Capacitor for cross-platform accessibility

TECHNICAL SKILLS

Languages: Python, Java, JavaScript/TypeScript, C++, SQL, Go, HTML/CSS, Swift

Frameworks: MongoDB, Postgres, Express, React, Node.js, Tailwind, FastAPI, Django, Flask

Engineer Tools: Git, Docker, AWS (S3, Lambda), Supabase, CI/CD (GitHub Actions), Kubernetes