Wayne Ngo

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EDUCATION

San Jose State University   San Jose, CA
B.S. in Software Engineering   *Graduation: May 2027*

Organizations: Software and Computer Engineering Society, Society of Asian Scientists and Engineers

Relevant Coursework: Data Structures and Algorithms, Software Engineering, Object-Oriented Design, Discrete Math, Intro to Database Management Systems, Operating Systems, Computer Organization and Architecture

EXPERIENCE

Software Engineering Intern   August 2025 – Present
Software and Computer Engineering Society   *San Jose, CA*

- Developed 4 RESTful APIs to send and receive messages over HTTPS with Node.js, Express.js, and MongoDB
- Integrated the messaging system into a student organization's official website, actively used by 500+ users
- Secured messaging APIs with the bcrypt Node.js library, passing JWT tokens in the HTTP Authorization header
- Monitored live performance with Prom/Grafana, visualizing CPU, SSEs, chatrooms, and 10k+ messages

Software Engineering Intern   June 2025 – August 2025
SJSU College of Engineering   *San Jose, CA*

- Moved print quota logic to secure backend, blocking student bypass and protected 10k+ pages a semester.
- Refactored JWT-based authentication to enforce per-user print limits across 400+ student accounts
- Used backend pdf-parse for PDF page-count extraction, improved accuracy and cut failed print jobs by 70%
- Streamlined REST API authentication to use JSON Web Tokens with HTTP headers, improving system security
- Expanded React unit tests with Chai, Mocha, and Sinon raising test coverage and preventing regression updates
- Built CI/CD pipelines to automate testing of Pull Requests on GitHub, enhancing developer productivity

PROJECTS

CharityConnect | *Java, Spring Boot, Spring Security, PostgreSQL, Docker*

- Designed a crowdfunding backend to scale 1k+ campaigns, support donations, and admin moderation
- Built RESTful APIs in Java 21 Spring Boot with JPA/PostgreSQL to enhance data reliability and validation
- Implemented JWT-based authentication and role-based access control to ensure secure, isolated user sessions
- Reached 88% test coverage (*JaCoCo*) using JUnit 5, Mockito, and MockMvc; while documenting endpoints

Quiz Generator | *Next.js, PostgreSQL, Typescript, Langchain, Drizzle*

- Built an AI quiz app in Next.js and TypeScript to generate quizzes from uploaded PDFs using OpenAI's GPT
- Implemented PDF upload and parsing to extract content efficiently for automated quiz creation workflows
- Optimized dynamic quiz rendering with real-time progress tracking and scoring for smoother user sessions
- Integrated PostgreSQL and Drizzle ORM to persist quizzes, track activity, and improve reliability for 50+ students

Sorting Visualizer | *React, Java, SpringBoot*

- Built a browser-based sorting visualizer with React and Spring Boot to show and compare algorithm performance
- Exposed Java 17 Spring Boot REST API with CORS to run algorithms and connect React to backend
- Designed an extensible backend structure that made adding and testing new sorting algorithms significantly easier
- Improved developer efficiency by unifying React and Spring Boot workflows for faster iteration and local startup

Amazon Product Review Analyzer | *Python, HuggingFace, pandas, Plotly*

- Built an NLP pipeline analyzing 10k+ Amazon reviews using LDA, BERTopic, and BERT for sentiment
- Fine-tuned a BERT model with HuggingFace Transformers, achieving 92% F1 on held-out reviews
- Used BERTopic and LDA to uncover complaint themes in negative reviews, revealing recurring product issues
- Analyzed topic clusters to extract key terms and insights that guided product fixes and improved UX

TECHNICAL SKILLS

Languages: Java, JavaScript, TypeScript, Python, HTML/CSS, SQL
Frameworks: React, Node.js, Express.js, Spring Boot, Spring Security, NextJS, FastAPI, Tailwind CSS
Developer Tools: Git, Docker, MongoDB, PostgreSQL, Maven, Prometheus, Grafana