Ethan Ngo

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EDUCATION

California State Polytechnic University, Pomona   August 2022 – December 2026

Bachelor of Science in Computer Science, Minor in Data Science - GPA: 3.9

- **Relevent Coursework:** Data Structures and Algorithms, Object-Orientated Design, Database Systems, Discrete Structures, Calculus I and II, Systems Programming, Software Engineering, Machine Learning, Big Data.
- **Honors & Awards:** President's Honor List 22-25, UCRHacks, UCSDHacks, CSUFHacks, CPPHacks, HackTech

EXPERIENCE

Software Engineer Intern | *FOX*   September 2025 – Present

- Building scalable data-driven solutions on the emerging tech team to support analytics and business intelligence.

Software Engineer Intern | *Newegg*   June 2025 – August 2025

- Architected a Python RAG pipeline by indexing HTSUS CSV into a local ChromaDB vector store and employing OpenAI-based contextual analysis for determining correct tariff codes, boosting classification accuracy by 23%.
- Designed and deployed an AI workflow to extract pricing for 500+ server quotes, reducing manual effort by 85%.
- Built a Flask API using Selenium and BeautifulSoup to extract and clean US Section 301 and VAT tariff rates, streamlining data collection for a Vue.JS chatbot workflow.

Undergraduate Research Assistant | *Cal Poly Pomona*   September 2024 – May 2025

- Engineered an algorithm with Python and ROS to transform PointCloud2 LiDAR data into relevant MAVLink messages containing the closest points, enabling real-time 3D obstacle avoidance of autonomous UAV.
- Conducted extensive testing of the algorithm through Gazebo simulations, increasing flight safety by 95%.
- Created a Bash script to automate the startup process of ROS nodes, reducing initialization time by 90%.

Frontend Developer | *Cal Poly Pomona SWE Association*   June 2023 – May 2024

- Designed and developed UI components for login, sign-up, and password reset pages in React Native.
- Integrated Google OAuth with custom log-in/sign-up buttons, enabling seamless third-party access.
- Implemented real-time validation and error handling for emails and passwords with a PostgreSQL backend API.

PROJECTS

Live Aid | *Caltech Hackathon Wolfram Alpha & Vly.ai Award*   devpost.com/software/live-aid

- Developed a financial impact dashboard for global displacement crises using NextJS, Tailwind, and Convex, delivering interactive maps, real-time data visualizations, and donor management scalable to 1000+ users.
- Implemented and trained a neural network model to predict an urgency score from country conflict data, providing contextual input to OpenAI-based aid allocation recommendations.

RootsAI | *UCSD Hackathon Best Use of Letta Award*   devpost.com/software/rootsai

- Collaborated with 3 students to build a React website that helps immigrant families access government programs and applications by leveraging NLP via Whisper for real-time multilingual speech transcription.
- Integrated Letta's stateful AI agent to generate personalized reports that remember user details across sessions.
- Utilized Gemini to perform deep research and simplify content, matching users with programs they qualify for.

Movie Streaming App | *MongoDB, ExpressJS, React Native, Node.JS*   github.com/ethan-ngo/CS4800-Netflix

- Led 4 students in weekly Agile sprints to build a full-stack, web and mobile movie/show streaming app.
- Developed RESTful APIs to manage user data and watch history, enabling bookmarking and timestamp tracking.
- Implemented JSON web token-based authentication and password encryption, enhancing security of session data.
- Utilized AWS S3 buckets for scalable profile picture storage and Amplify for hosting the frontend.
- Crafted 48 unit tests using Jest to validate frontend components and backend routes, achieving 97% code coverage.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, C#, SQL, JavaScript, HTML/CSS, R
Technologies: Git, Git Bash, Docker, Visual Studio, Android Studio, Unity, Figma, Jira, Trello, Confluence
Frameworks/Libraries: React, Next.js, Node.js, Flask, Pandas, NumPy, Matplotlib, PyTorch, TensorFlow