Nicholas Channg

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Education

Cornell University Ithaca, NY

B.A. Computer Science, Minors in Artificial Intelligence, Data Science | GPA: 3.72/4.0 *Expected Graduation, May 2027*

Honors: Y Combinator AI Startup School (selected as 1 of the top 2500 CS students), 3x Hackathon Winner
Coursework: Data Structures, Algorithms, Databases, Machine Learning, NLP, Computer Systems

Experience

Amazon New York, NY

Incoming Software Development Engineer Intern *Fall 2025*

Tesla Fremont, CA

Software Engineer Intern *May 2025 – Present*

- Designed and built the backend architecture for Tesla Mobile App's Loyalty feature, engineering REST APIs and data pipelines using Node.js and Express.js to process personalized user rewards for Tesla's 5 million+ users
- Developed feature flag middleware in a Backend-for-Frontend (BFF) server using LaunchDarkly, enabling per-user feature access and staged rollouts of the Loyalty section
- Integrated OAuth2 and JWT authentication into the Loyalty API stack, implementing refresh tokens and permission checks for secure access to Tesla user data
- Spearheaded development of the Loyalty section using React Native and TypeScript, implementing scalable components with lazy loading, dynamic rendering of API data, and Firebase Analytics to monitor user engagement

Flow Remote

Backend Engineer Intern *Jan 2024 – May 2024*

- Engineered a REST API using Flask and Python to retrieve and process data from Flow's AI models, automating customer prospecting and increasing sales representative call volume by 300% (30 → 120 calls/day)
- Optimized PostgreSQL query performance and introduced batch processing, reducing model latency by 15%
- Integrated backend services into CI/CD pipeline using GitHub Actions, ensuring automated testing and deployment

Projects

MathGPT | *React, TypeScript, Microsoft Phi-3 API, HTML, CSS* July 2024

- Built an AI Math Tutor Chrome extension using Microsoft's Phi-3 LLM, React, and TypeScript that provides personalized math tutoring to 5,000+ students, featuring structured prompts and step-by-step AI solutions
- Reduced application latency by 67% (30 → 10s) by dynamically adjusting user input and implementing conditional API calls, eliminating redundant requests to the LLM and timeout issues

ElectAI | *Python, Scikit-learn, Flask, React, TypeScript, TailwindCSS, NumPy, Pandas* Jan 2025

- Engineered a full-stack ML web app to predict voter turnout across U.S. states using a Flask REST API to retrieve data from the model and a React frontend to dynamically display the output
- Trained the regression model on 20 years of election data using Scikit-learn and Python, and completed pre-processing with NumPy and Pandas, achieving high accuracy (RMSE: 5.35, MAE: 4.22)

Technical Skills

Languages: Python, Java, TypeScript, JavaScript, C++, SQL, HTML, CSS
Frameworks: Flask, FastAPI, Node.js, Express.js, PostgreSQL, React, React Native, Next.js,
Libraries: Scikit-learn, NumPy, Pandas, OpenAI API, TailwindCSS, Material UI, Chakra-UI
Tools/Technologies: Git, AWS, Postman, CI/CD, LaunchDarkly, Firebase, Jira, Confluence