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*

Awards: Y Combinator AI Startup School (1 of 2,500 selected), 3x Hackathon Winner

Coursework: Data Structures, Algorithms, Databases, Machine Learning, NLP, Computer Systems

Technical Skills

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

Experience

Amazon New York, NY

Incoming Software Development Engineer Intern *Fall 2025*

- Incoming Fall 2025 on Amazon Ads Team

Tesla Fremont, CA

Software Engineer Intern *May 2025 – Present*

- Designed and built the backend architecture for the Tesla Mobile App's Loyalty program, developing REST APIs in Node.js and Express.js to compute personalized user rewards for 5M+ users
- Developed custom middleware to manage OAuth2 and JWT-based authentication alongside LaunchDarkly feature flag logic, enabling secure per-user versioning and staged rollouts for the Loyalty program
- Extended GraphQL APIs for the Charging section of the mobile app to query supercharger location data and process charging session payments, enabling real-time supercharging location and billing functionality for Tesla users

Flow Remote

Backend Engineer Intern *Jan 2024 – May 2024*

- Engineered REST APIs 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)
- Reduced model inference latency by 15% by optimizing PostgreSQL queries; replaced nested SELECTs with JOINs, added B-tree indexes on high-cardinality columns, and batched execution to minimize database calls
- Integrated backend services into CI/CD pipeline using GitHub Actions, ensuring automated testing and deployment
- Excelled in Agile sprint cycles with cross-functional teams, contributing through code reviews and daily standups

Projects

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)

MathGPT | *Microsoft Phi-3 API, React, TypeScript, 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 4,000+ students, featuring structured prompts and step-by-step AI solutions
- Reduced application latency by 67% (30s → 10s) by dynamically adjusting user input via prompt engineering and implementing conditional API calls, eliminating redundant requests to the LLM and timeout issues

vizAsianHate – Most Interactive Award @ Vizathon 2021 | *React, Next.js, Chakra-UI, JavaScript, Vercel* Aug 2021

- Developed a dynamic website utilizing React and TypeScript to create multiple interactive data analysis visualizations including bubble graphs, maps, and charts illustrating Asian-Pacific American hate crime data