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