

# Justin Lee

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## EDUCATION

### University of Rochester

Rochester, NY

Bachelor's of Science, Computer Science

Jan 2025

- *Relevant Coursework: Data Mining, Computer Organization, Programming Languages Design & Implementation, Object-Oriented Programming*

## WORK EXPERIENCE

### Software Engineer Intern

Jun 2024 — Sep 2024

Wedbush Securities

New York, NY

- Built RAG-based chatbot using Bot Framework SDK and C# to summarize 30-page reports, saving 17 analysts ~2 hours (\$1,770) daily.
- Integrated chatbot into firm-wide Azure cloud architecture using Azure OpenAI, enabling secure and scalable deployment.
- Developed high-performance FIX session simulator and parser in Golang, supporting concurrent sessions and ~1ms latency.
- Integrated FIX session simulator into firm dev environment, including centralized configuration management and logging (via SQL).
- Enabled QA and integration teams to test trading workflows without connecting to live markets, reducing test cycle time by 60%.
- Adopted by QA and integration teams to validate end-to-end FIX workflows, cutting manual testing time by 40%.

### Computer Science Teaching Assistant

Jun 2022 — May 2024

University of Rochester | Computer Science Department

Rochester, NY

- Tutored students in computational complexity theory, DSA, and Java, covering topics like regex and Big-O.
- Assisted total of 100+ undergraduate students get an average of 90.2% on midterms and 93.4% on final exams.
- Developed comprehensive supplemental materials for 36+ weekly homework and lab assignments, including videos and examples.

## PROJECTS

### Discover Similar

Aug 2025 — Present

- Designed and built a NLP music recommendation engine that interprets user prompts ("SZA *but happier*") into audio features.
- Developed a Next.js/TypeScript backend with input validation (Zod) and Spotify Web API integration to fetch artist/track metadata.
- Implemented an LLM-powered interpreter (Gemini + LangChain) to parse user intent and generate personalized recommendations.

### Discriminative Predictive Coding Model

Jan 2025 — May 2025

- Engineered a neural network using the NGC-learn Python library to classify two sets of handwritten symbols, MNIST and KMNIST.
- Achieved 97% accuracy on MNIST and 81% on KMNIST while adhering to local computation rules and Hebbian plasticity.
- Applied systematic performance tuning (activation functions, weight bounds), resulting in a 6% increase in classification accuracy.

### Fantasy Valorant

Jan 2025 — Present

- Designed full-stack fantasy esports tracker using Flask, React, and PostgreSQL (Supabase) for persistent data storage.
- Automated web scraping pipelines with Selenium to collect live Valorant stats from multiple sources.
- Built interactive visualizations with Chart.js to present real-time match insights and player analytics.

### 5 Stack Bot

July 2025 — Sep 2025

- Built a Discord bot with discord.py to automate 5-player team formation for gaming sessions.
- Implemented custom commands, role assignment, and queue management features to simplify scheduling.
- Used Docker to containerize the bot and Github Actions for consistent deployment on AWS' ECS service.

### Spotify Hit Song Predictor

Feb 2023 — Apr 2023

- Performed data preprocessing and preliminary analysis using Pandas and NumPy on over 30,000 Spotify tracks.
- Developed a REPL using Spotify RESTful API to allow for the prediction of playlists using 2 machine learning models.

## SKILLS

- **Programming Languages:** Java, Go, SQL, Python, C, C#, Lisp, HTML/CSS, JavaScript, TypeScript, Swift, Kotlin,
- **Frameworks & Libraries:** QuickFixGo, Microsoft Bot Framework, React, Node.js, Next.js, Flask, NumPy, Pandas
- **Technologies & Tools:** RESTful APIs, , Git, Vim, Linux/Unix, MacOS, Windows, Supabase (PostgreSQL), FIX Protocol