Justin Lee

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Education

University of Rochester Rochester, NY
Bachelor's of Science, Computer Science *Aug 2021 — May 2025*
- Relevant Coursework: *Data Structures & Algorithms, Advanced Algorithms, Artificial Intelligence, Data Mining, Computer Organization, Programming Languages Design & Implementation, Object-Oriented Programming*

LaSalle Ramon Llull University Barcelona, ES
Bachelor's of Science, Computer Science *Aug 2021 — May 2025*
- Relevant Coursework: *Advanced Operating Systems, 3D Computer Graphics*

Work Experience

Fintech 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 documents, saving 17 analysts ~2 hours 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.

Computational Complexity Theory Teaching Assistant Dec 2023 — May 2024
University of Rochester | Computer Science Department *Rochester, NY*
- Tutored students in theoretical CS, covering topics like regular expressions, parsing/syntax, decidability, and complexity classes.
- Provided 1-on-1 instruction in CS theory, helping students grasp DFAs, grammars, and P vs. NP through personalized sessions.
- Assisted lab session of 14 undergraduate students get an average of 90.2% on midterm and 93.4% on final exam.

Data Structures & Algorithms Teaching Assistant Jun 2022 — May 2023
University of Rochester | Computer Science Department *Rochester, NY*
- Tutored Data Structures & Algorithms, covering topics like arrays, lists, trees, graphs, recursion, and dynamic programming.
- Guided 11 undergraduate students through DSA problems in weekly workshop sessions.

Projects

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.

Salendar Nov 2023 — May 2024
- Built Flask and Next.js services to parse documents for due dates using OCR and structured data tools like Pandas and Numpy.
- Connected Next.js backend to Google Calendar API, enabling automatic calendar event creation from academic schedules.

Pawntastic AI Nov 2023 — May 2024
- Implemented a chess-inspired game in Java using object-oriented programming design principles.
- Wrote an AI bot that uses the minimax algorithm and alpha-beta pruning to play the game against a human.

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 API to allow for the prediction of playlists' popularity using 2 models with accuracies of 72% and 79%.

Skills

- **Programming Languages**: Java, Go, 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**: FIX Protocol, Git, Vim, Linux, MacOS, Windows, Supabase