Lance Yan

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Education

University of Waterloo **Expected September 2028**
Bachelor of Computer Science (Hons.), Co-op *Waterloo, ON*

Technical Skills

Languages: Python, JavaScript, TypeScript, Java
Web Development: React, Next.js, Express.js, HTML/CSS, Tailwind
Databases & Tools: PostgreSQL, Supabase, Vercel, Git
Machine Learning: TensorFlow, NumPy, Matplotlib

Experience

Software Engineering Intern (Founding Team) **May 2025 – Present**
Stealth Startup – AI Legal Document Parsing *Toronto, ON*

- Engineered the **entire frontend architecture** for an AI-powered legal document verification tool in **React & Next.js**, implementing modular UI patterns and dynamic validation workflows to support high-volume enterprise users.
- Designed and implemented a **modular component library** of **40+** reusable UI elements, reducing projected development time for new features by an estimated **60%**.
- Built dynamic form validation workflows with **OpenAI API integration** to provide instant AI feedback on document completion accuracy directly within the UI.

Software Engineering Intern **January 2025 – April 2025**
RCL Consulting *Vancouver, BC*

- Built and launched the consulting firm's public website with **Next.js, TypeScript, and Tailwind**, optimizing SEO and accessibility to boost client engagement and drove **1,000+** new monthly visitors.
- Automated deployment pipelines with **Vercel CI/CD**, cutting release cycles to hours while maintaining **99.9%** uptime.
- Integrated **Google Analytics and CRM workflows**, giving consultants real-time insights into lead sources and boosting sales-qualified leads by **30%**.

Research Fellow **June 2024 – July 2024**
Toronto Metropolitan University *Toronto, ON*

- Led a **9-member interdisciplinary team** in designing a turbine-powered device for integration with central AC units, aimed at generating sustainable energy from existing airflow.
- Developed **MATLAB/Python** simulations of airflow energy capture, validating turbine prototypes under **3+** environmental conditions and informing final hardware design.
- Collaborated with professional engineers and professors from **Yale, UofT, and TMU** to refine system architecture, and advance to the final round of industry evaluation.

Teaching Assistant **September 2022 – June 2023**
Moscrop Secondary *Burnaby, BC*

- Led instruction for **60+ AP-level** Computer Science students, running weekly tutorials and review sessions that consistently boosted practice quiz averages by **15%** compared to pre-session scores.
- Provided **400+** combined hours of mentorship in **Python** and **Java**, helping individual students progress from incomplete assignments to passing grades through targeted guidance on recursion, data structures, and OOP.
- Designed and graded **700+** coding assignments, quizzes, and mock exams with detailed rubrics, ensuring fair evaluation and achieving near-zero regrade requests throughout the semester.

Projects

AI-Powered Period Tracker | React, Next.js, Supabase, Gemini API, TypeScript **June 2025**

- Built a full-stack menstrual health tracker with **React** and **Supabase**, supporting secure authentication, role-based access control, and highly optimized Postgres queries for reliable data retrieval.
- Integrated **Gemini API** to create a conversational **chatbot** that provides cycle predictions and personalized health insights with context-aware reasoning and adaptive dialogue flows.

Chess Neural Network | TensorFlow, Python, NumPy, Matplotlib **May 2025**

- Built a deep learning chess engine with TensorFlow, training on **80M+** board states and achieving an Elo of **1400.**
- Optimized inference speed by batching evaluations and pruning low-probability moves, reducing average decision time by **42%** while maintaining strong tactical accuracy.