Austin Jiang

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Experience

Research Engineer (Wolfram Emerging Leaders Program 2025-2026), 09/2025 – 05/2026
Wolfram Research Remote

- Building a **high-performance parallel computing system** for cellular automata, replacing **nested loops** with **selective cell evaluation** to reduce redundant computation.
- Designing **distributed workload scheduling** and **load balancing** across multiple kernels to maximize **efficiency** and **scalability**.

Research Assistant (Wolfram Summer Research Program 2025), *Wolfram Research* 06/2024 – 07/2025
Boston, MA, USA

- Selected as one of the few returning participants to contribute to advanced projects in **computer science and symbolic computation**.
- Applied **algorithm design and computational methods** in experiment planning and the development of practical research tools.
- Collaborated with Wolfram researchers to integrate algorithms into prototypes, refining methodologies and evaluating results in real-world research contexts.

Research Fellow (Wolfram Emerging Leaders Program 2024-2025), 09/2024 – 01/2025
Wolfram Research Remote

- Awarded a **full scholarship** for innovation and leadership in **computational research**.
- Led a team project developing a **cellular automata–based simulation tool** for 3D printing, focusing on **algorithm design** and **system implementation**.
- Published a formal research submission, including **software development and documentation,** on Wolfram Community, and going to present the results at the **Wolfram Technology Conference 2025**.

Summer Researcher (Wolfram Summer Research Program 2024), 06/2024 – 07/2025
Wolfram Research Boston, MA, USA

- Designed **constructive algorithms** in **lambda calculus** and **combinatory logic**, building symbolic computing infrastructure for binary representation.
- Delivered **open-source functions** in the Wolfram Function Repository and a formal research submission used by researchers.
- Consulted by **Wolfram Institute Research Fellows** and recognized **by Stephen Wolfram** as a *"21st Century λ-Combinator-ist."*

Contest Director & Problem Setter, *DMOJ: Modern Online Judge* 06/2022 – Present
Remote

- Directed **3 national-level coding contests** on Canada's leading programming platform, attracting **1000+ participants**.
- Designed and implemented **20+ algorithmic problems** with full **test generation and evaluation infrastructure**, ranging in difficulty from **USACO Gold to IOI**.
- Led a remote team of 7 students from top universities to deliver contests at production scale.

Co-Founder & Chief Executive Officer, *Happy Hackers Foundation* 08/2023 – 01/2025
Vancouver, BC, Canada

- Co-founded a nonprofit promoting inclusive STEM education via global outreach.
- Led **5 hackathons**, reaching **600+ participants** from **28 countries**.
- Organized **10+ workshops**, raised **$60K+ in sponsorships**, and managed **90+ student-led tech projects**.

Honours and Awards

International Olympiad in Artificial Intelligence (IOAI) Team Canada Selection Finalist, *IOAI-Canada* 06/2025

Canadian Computing Olympiad 2025 Silver Medalist, *University of Waterloo* 05/2025
Placed **top 6 nationally** among the top 20 finalists selected for Canada's national computing olympiad for the IOI selection.

Mathematics National Scholarship Recipient ($25,000), *University of Waterloo* 04/2025
Awarded to ~10 students for outstanding academic performance in mathematics and computer science.

Canadian Computing Olympiad 2024 Silver Medalist, *University of Waterloo* 05/2024
Placed **top 5 nationally** among the top 20 finalists selected for Canada's national computing olympiad for the IOI selection.

ACSL Senior 2024 Global Finals Gold Medalist, *American Computer Science League* 04/2024
9th place worldwide

USACO Platinum Division, *USA Computing Olympiad* 01/2024

Projects

Recap 07/2025

- Built at China's largest hackathon (800 participants); won **1st place in the Multimodal Track** and a 5,000 RMB prize.
- Developed a backend with **FastAPI**, **WebSockets**, and **SQL/NoSQL** storage, deployed on **CentOS VPS** with **Nginx** for production reliability.
- Designed a **graph-based knowledge model** and implemented algorithms to simulate **memory decay** and optimize **review scheduling**, helping students retain knowledge efficiently.

Lookaround-AI 07/2025

- Built an educational system on real-world street scenes, integrating **Google Street View API** with AI for contextual learning.
- Implemented on the **TEN Framework**, combining a **vision agent** for scene analysis with a **language agent** for dynamic dialogue.
- Integrated **speech recognition** and **voice output** to enable natural, multimodal human–AI interaction.

Zebra Giraffe Swap 06/2025

- Built a **concept-swapping solution** (giraffe ↔ zebra) via **selective UNet training**.
- Implemented with **PyTorch** and **Hugging Face Diffusers/Transformers**.
- Designed a **scalable preprocessing pipeline** on the **COCO 2017 dataset**.

ArtifAI 03/2024 – 04/2024

- Developed a system to distinguish AI-generated and human-made artworks, addressing ethical and copyright challenges in generative AI.
- Built and deployed the **backend with FastAPI** on a personal **VPS (CentOS + Nginx + SSL)**, integrating **GPT API** as an assistant for copyright queries and creator support.
- Optimized training to handle **memory-intensive models**. Scaled the system to **4,900+ uses by 200+ users**, ensuring backend reliability\transparency in digital art.

Education

Bachelor of Computer Science, *University of Waterloo* 09/2025 – 04/2030
First year all advanced courses: CS 147, Math 145, Math 147 Waterloo, ON, Canada
Conducting undergraduate research on AI training infra under professor.

IB Diploma, *West Vancouver Secondary School* 09/2020 – 06/2025

- IB Math AA HL (7), IB Physics HL (7), IB English A LAL HL (6), IB Mandarin B HL (7), IB Chemistry SL (7), IB Geography SL (6) Vancouver, BC, Canada
- AP CSA (5), AP CSP (5), AP Calculus BC (5), AP Stats (5)