

Austin Jiang

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EXPERIENCE

Jane Street

New York, NY

First-Year Trading and Technology Program Participant | OCaml, Game Theory, Probability

Mar 2026

- Invited as **1 of ~50 students globally** (< 1% acceptance rate) to study quantitative modeling and market making.

Multicore Lab, University of Waterloo

Waterloo, ON

Undergraduate Research Assistant (supervised by Dr. Trevor Brown) | C++, CUDA

Sep 2025 – Present

- Migrated the build to the **CUDA toolchain (nvcc)** to resolve host-device and compiler compatibility issues.
- Developed a unified adapter to support **versioned vs. non-versioned** data structures within the benchmark.
- Benchmarking Verlib (PPoPP'24) extension with **10M-key** range queries under **100+ threads** on GPU.
- Implemented B+ Tree and ART using the **GPU Range Query Dictionary** library for performance comparison.

Wolfram Research

Remote

Research Intern | Mathematica, Wolfram Kernels

Sep 2025 – Present

- Developed multi-threaded engine managing **over 800K** data points across **8 CPU cores**, achieving **1.4x speedup**.
- Developed sparse frontier updates and dense scans, achieving a **127% speedup** via load-balancing strategies.
- Designed a **benchmark harness** measuring updates per second, active ratio, and scheduling overhead.

Research Intern | Mathematica, Git

Sep 2024 – Jan 2025

- Developed algorithms to voxelize 3D meshes, detect overhanging regions, increasing infill stability by **55%**.
- Designed **benchmarking metrics** to measure density, connectivity, and printability of generated infills.
- Produced a first-author research paper, presented at the **Wolfram Technology Conference 2025**.

PROJECTS

Rewrite, TreeHacks 2026 | Python: Built a real-time 3D VR game in Unity that is fully interactive, deploying Hunyuan WorldPlay 1.5 on Modal across 4× H200 GPUs with tensor parallelism (accelerating from 1 fps to 12 fps).

ADaptiv, NexHacks 2026 | Python: Built a full video object replacement pipeline in ComfyUI, using Gemini for video understanding, Meta SAM3 for pixel-level masking, and Alibaba Wan, accelerated on RTX 4090.

Lambda Calculus Interpreter | C++: Built a Lambda Calculus interpreter with a parser, AST, and normal order evaluator, using de Bruijn indices to avoid variable capture and supporting curried forms.

LookAround AI, AdventureX (Multimodel Track Winner) | Python, React: Built a voice-controlled multi-agent tour guide using the TEN Framework, integrating Google Maps Street View API for route narration.

Personal Infrastructure & Services | Linux, FastAPI, SQL: Built & maintained a personal Linux server hosting a full-stack website behind Nginx, Cloudflare DNS, cloud storage, OpenVPN, email service, and FastAPI + SQL backends.

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Computer Science (Honours) | Major GPA: 4.0/4.0

Expected May 2028

- Scholarships:** René Descartes National Scholarship (\$25,000), President's Scholarship of Distinction (\$2,500)
- Coursework:** Data Structures, Algorithms, Development Tools, Linear Algebra

SKILLS

Languages: C++, Python, C, Java, Bash, TypeScript, Rust

Tools/Libraries: Linux, Git, CUDA, CMake, PyTorch, TensorFlow, SQL, Docker, Nginx, Flask, FastAPI, Express

Concepts: Concurrency, Transformers, Multithreading, High-Performance Computing, Distributed Systems, Database

AWARDS

Meta Hacker Cup Round 2: Ranked 813th out of 13,779 participants overall, top 6% worldwide.

Generation Google Scholarship: Google's flagship undergraduate scholarship for impact in technology (1 of 55).

Canadian Computing Olympiad 2024 & 2025: Silver medalist x2 (6th and 7th out of 10,000+ participants).

USACO 2024 (Platinum): Achieved the highest division, ranked top 100 out of 15,564 participants.