

Austin Jiang

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EXPERIENCE

Jane Street	New York, NY
<i>First-Year Trading and Technology Program Participant OCaml, Game Theory, Probability</i>	<i>Mar 2026</i>
• Invited as 1 of ~50 students globally (< 1% acceptance rate) to study quantitative modeling and market making.	
Multicore Lab, University of Waterloo	Waterloo, ON
<i>Undergraduate Research Assistant (supervised by Dr. Trevor Brown) C++, CUDA</i>	<i>Sep 2025 – Present</i>
• Migrated the build to the CUDA toolkit (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
<i>Research Intern Mathematica, Wolfram Kernels</i>	<i>Sep 2025 – Present</i>
• 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.	
<i>Research Intern Mathematica, Git</i>	<i>Sep 2024 – Jan 2025</i>
• 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
<i>Bachelor of Computer Science (Honours) Major GPA: 4.0/4.0</i>	<i>Expected May 2028</i>
• 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.