

Jerry (Yuze) Li

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EDUCATION

University of Waterloo

Bachelor of Computer Science | *Schulich Leader Scholarship (\$100,000+)*

Expected 2029

Waterloo, Canada

EXPERIENCE

Mathos AI (YC W24) *Software Engineer Intern*

June 2026 – Present

- Shipped MP4 export for AI math videos, rendering Remotion jobs in isolated AWS Fargate sandboxes via Celery.
- Built an OAuth 2.0 and MCP server so ChatGPT and Claude users can generate and download Mathos videos in chat.
- Shipped lifecycle emails on AWS SES and EventBridge with engagement tracking and Gmail reply threading.
- Rebuilt the AI tutor's step grading on a fast judge model plus SymPy checks, sharply improving accuracy and speed.

Waterloo Defence *Co-Founder & Software Lead*

Sept. 2026 – Present

- Co-founded a student team building an autonomous counter-drone turret for DND's 2027 CUAS Sandbox; lead development of ICARUS, a CNN detector and Kalman tracker for drones a few pixels wide in 4K video.
- Beat Ultralytics YOLOv8m, YOLO11m, and YOLO26m fine-tuned on the same data on held-out tests (0.87 vs. 0.80 AP50 on LRDDv3, 0.67 vs. 0.56 on FRED) and Roboflow's RF-DETR Large on validation (0.88 vs. 0.75).

TopsOJ *Founder & Lead Developer*

July 2023 – Present

- Built a competitive-math judge with 100,000+ all-time active users (Google Analytics), 180+ countries, and 128,000+ submissions.
- Designed EloMMR ratings; led a 30-person team across engineering, contest ops, and sponsors like 3Blue1Brown.

Quoted Tech Computers *Software Engineer Intern*

July 2025 – Aug. 2025

- Automated barcode-label generation and CUPS printing with Node.js/Express, cutting manual processing time by 70%.
- Built Playwright/Selenium scrapers that structure competitor catalogs for pricing and inventory analysis.

RESEARCH

Verifying the Second Agent: Recursive Delegation in Coding Agents *Sole Author*

2026

- **Accepted at two NeurIPS 2026 workshops:** Meta-Agents and Who Verifies the Agents?, as *Verifying the Second Agent: Controlled Experiments on Recursive Delegation in Coding Agents*.
- Ran controlled experiments on recursive coding-agent delegation, measuring verified task success, token cost, and overlapping code edits across 1–15-agent configurations.

Computational Astrophysics

Nov. 2024 – Mar. 2026

Supervised by Dr. Alexander Mushtukov (University of Oxford)

Remote

- Sole-authored papers in *Research Notes of the AAS* and *Journal of High School Science* (**Best Manuscript**), plus an arXiv preprint on binary-star mass transfer.
- Developed a velocity-rescaling closure that reduced orbit error from 22% to under $10^{-4}\%$.

PROJECTS

Daedalus | *TypeScript, Three.js/WebGL, MediaPipe*

JAMHacks 10

- Co-built a webcam-gesture 3D modeling app with MediaPipe hand tracking and Three.js; won Best Non-GenAI Hack.

Worldline Engine | *C++, raylib, CMake*

2026

- Wrote a deterministic C++ universe simulator with seeded generation, live physics, save/replay, and automated tests.

AWARDS

USACO Platinum (1,000/1,000 on Gold) | **AIME** qualifier (3×)

AAPT PhysicsBowl Div. II: 1st in Canada, 7th globally | **Sir Isaac Newton Exam**: 4th in Canada, 9th globally

TECHNICAL SKILLS

Languages: C/C++, Python, TypeScript, JavaScript, SQL

Frameworks: Node.js, Express, React, Next.js, Celery, PyTorch, ONNX Runtime, NumPy, SciPy, raylib, Three.js

Tools: AWS (EC2, Fargate, SES, S3), Git, Linux, SQLite, CMake, OpenCV, MediaPipe, Playwright, WebSockets