

Shengyuan (Hanson) He

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github.com/HansonHe-UW

Skills

Programming Languages	Python, JavaScript/TypeScript, C/C++ (Embedded), SQL
Web & Backend	FastAPI, REST APIs, WebSockets, Node.js
Frontend	React, Vite, Tailwind CSS, HTML/CSS
AI / Data & CV	Gemini API, sentence-transformers, ChromaDB, OpenCV, YOLOv8
Tools & Systems	Git, Linux/Unix, macOS, Bash/Shell, Firebase, Cloud Storage, AWS

Projects

SpatialVCS | Devpost | GitHub February 2026
Full-Stack Software Engineer (Best Beginner Hack @ CTRL+HACK+DEL 2.0)

- Built a full-stack “Git for Physical Reality” MVP (**FastAPI**, **React 19**) in 36 hours to version-control, diff, and semantically search real-world environments.
- Engineered a dual-stream AI pipeline decoupling real-time 30fps object tracking (**YOLOv8**) from heavy asynchronous semantic reasoning (**Gemini 1.5**), significantly optimizing API latency.
- Implemented complex 2D-to-3D matrix coordinate projection and a custom **Persistence Buffer** to synchronize high-throughput **WebSocket** data streams, eliminating UI flicker.
- Developed an intelligent **RAG** vector query engine utilizing **ChromaDB** to index multi-dimensional spatial events, enabling natural language search (e.g., “Where are my keys?”).

CareerForge AI | GitHub Jan 2026 – Feb 2026
Full-Stack Engineer

- Built a Streamlit desktop app integrating **streamlit-webrtc**, **MediaPipe** Face Landmarker, and **Gemini 3 Pro** for real-time interview coaching.
- Implemented a local-first workflow with AES-256 API key vault and resume-JD matching plus PDF/DOCX/TeX exports.

Experience

IT Support & Automation Intern Apr 2025 – Jul 2025
Hunan Shengpeng Electric Power Technology Co., Ltd. — Changsha, Hunan, China

- Wrote small batch/shell scripts to speed up repetitive setup tasks (app installs, printer/VPN config) for new devices, saving manual steps.
- Tracked incidents and assets in a lightweight Sheet to improve handoff and reduce repeated follow-ups for recurring issues.
- Built checklists and short how-to docs to standardize common fixes (Wi-Fi, shared drives, permissions), improving first-try resolution.
- Troubleshoot Windows/macOS endpoint issues and basic network connectivity in a small-office environment with multiple devices.

Education

University of Waterloo *Exp. Grad.: Apr 2030*
Bachelor of Applied Science (BAsc), Honours Electrical Engineering, Co-op Program

Awards and Certificates

President’s Scholarship, University of Waterloo, Waterloo, ON June 2025

- Awarded for academic excellence with an admission average between 90% and 94.9%.