

J. Stephen Huang

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EDUCATION

University of Waterloo

Bachelor of Applied Science in Computer Engineering | Grade: 92%

Sep. 2024 – Present

Waterloo, ON

EXPERIENCE

Software Engineer

Sep. 2025 – Present

Toronto, ON

Parametric Research Labs

- Developed 2 AI voice agents capable of fully handling 30 inbound and outbound calls in parallel using AWS, LiveKit and NestJS, reducing routine call handling for high-volume clinics by 70% and lowering labor costs by 50%.
- Built a conversational SMS agent leveraging OpenAI's API with function calling to deliver dynamic reminders, follow-ups, call summaries, and rescheduling options to patients, greatly enhancing user experience before and after calls.
- Incorporated RAG into the voice agent pipeline, reducing context overhead by 33% and optimizing LLM performance by lowering overall latency by 70%, retrieving up-to-date information, and mitigating hallucinations during calls.

Software Engineer

Feb. 2025 – Present

Montreal, QC

Garment System – garmentsystem.com

- Implemented a full-stack platform using Next.js, SASS, and Prisma to streamline clothing batch requests from 70+ clients, enabling requests to be fulfilled 50% faster through an intuitive interface and clear data visualization.
- Engineered a fully embedded Stripe checkout experience that allows customers to purchase clothing worldwide, accurately handling tax, shipping, and order creation, and successfully processing 50+ payments on launch day.
- Resolved 30+ high/medium priority bugs, ensuring uninterrupted operations for the manufacturing team.

Robotics Software Lead

Sep. 2024 – Present

Waterloo, ON

WATonomous – World Modeling Division

- Led a team of 6 in creating reliable mapping, localization, and decision-making solutions for autonomous driving.
- Spearheaded the development of world modeling modules in C++ that enable vehicle awareness of traffic control devices, significantly enhancing downstream processes such as decision-making, path planning, and obstacle avoidance.
- Implemented a localization node that fused wheel odometry, IMU, and GPS through an Extended Kalman Filter to localize a simulated vehicle in CARLA, achieving accurate vehicle state estimation and enabling pure pursuit control.
- Generated and parsed OpenStreetMap files into our high-definition map to create a complete routing graph with lane boundaries and navigation waypoints, providing global path planning for the car given a destination point.

Mechanical Engineer Associate

Jan. 2025 – Apr. 2025

Waterloo, ON

Sheartak Tools

- Designed and drafted 30+ precise 3D models and 2D drawings for new product lines, customer-specific tools, and existing inventory using SolidWorks, delivering them to the manufacturing team for production.
- Authored clear and accurate installation manuals for 20+ products, enabling customers to complete installations confidently and independently, significantly reducing technical support inquiries.

Hackathon Lead Organizer

Aug. 2023 – Apr. 2024

Montreal, QC

MariHacks – marihacks.com

- Revamped the MariHacks hackathon website using React and Framer Motion, implementing dynamic animations and an engaging user experience, doubling the number of participants compared to the previous year.
- Coordinated and taught React web development workshops, enhancing the event's branding and visual appeal.

PROJECTS

YouTube Automation Pipeline – github.com/JStephenHuang/yap

- Developed a Python pipeline with open-source libraries to automate end-to-end narration video creation, eliminating the need to manually source content, record narration, edit and upload, saving 10 hours per video at zero cost.

AI Transcription Platform – capshun.ca

- Led the development of a Next.js web application that provides 99% accurate AI transcriptions for content creators.

TECHNICAL SKILLS

Languages: TypeScript/JavaScript, C++, Python, Bash, HTML/CSS, SQL

Technologies: React, Next.js, Sass, NestJS, Supabase, LangChain, Prisma, Firebase, ROS 2, CARLA

Tools: GitHub, Docker, Foxglove, Stripe, AWS, Vercel, LiveKit, Twilio