J. Stephen Huang

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Education

University of Waterloo **Sep. 2024 – Present**
Bachelor of Applied Science in Computer Engineering | Grade: 92% *Waterloo, ON*

Experience

Software Engineer Intern **Sep. 2025 – Dec. 2025**
Parametric Research Labs *Toronto, ON*

- Developed two 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.
- Engineered an AWS pipeline that validates uploaded call list CSVs and automatically schedules outbound calls, saving the clinic over 1000 manual call launches per week.

Software Engineer **Feb. 2025 – Present**
Garment System – garmentsystem.com *Montreal, QC*

- Implemented a full-stack platform using Next.js, Redis, and Prisma to streamline clothing batch requests from 100+ 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**
WATonomous – World Modeling Division *Waterloo, ON*

- 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.
- Developed a C++ behavior planner using BehaviorTree.CPP and ROS actions, enabling the car to intelligently select and manage basic driving behaviours such as stopping, turning, and lane changes.

Mechanical Engineer Intern **Jan. 2025 – Apr. 2025**
Sheartak Tools *Waterloo, ON*

- 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**
MariHacks – marihacks.com *Montreal, QC*

- 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

- Created 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, Redis, NestJS, Supabase, LangChain, Prisma, Firebase, ROS 2, CARLA
Tools: GitHub, Docker, Foxglove, Stripe, AWS, Vercel, LiveKit, Twilio