

# Owen Wang

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## EDUCATION

### Queen's University

*Honours Bachelor of Science in Computing, Software Design Specialization*

- 2025/2026 Faculty of Computing Orientation Leader & Web Development Team

Kingston, ON, Canada

*Expected Graduation 2028*

### The University of Hong Kong

*Relevant Coursework: Software Engineering, Statistical Machine Learning*

Hong Kong, China

*2026 Fall Exchange*

## TECHNICAL SKILLS

**Languages:** Python, C, C++, Java, Javascript, HTML/CSS, SQL

**Frameworks:** Flask, React, Next.js, Node.js, Express.js, FastAPI, ROS2, RESTful APIs

**Developer Tools:** Docker, Git, GitHub, VS Code, Linux, Copilot, Cursor, RViz

**Libraries:** Relpy, NumPy, Pandas, OpenCV, PyTorch, WebSockets, Three.js, Matplotlib

## EXPERIENCE

### Data Solutions Developer Intern

*City of Vaughan*

May 2026 – Aug. 2026

*Vaughan, ON, Canada*

- Wrote Python automation scripts to clean, filter, transform, and aggregate operational datasets, reducing manual data processing.
- Developed **full-stack** internal dashboards to query, visualize, and interact with large datasets.
- Integrated external data sources via third-party **REST APIs**, and debugged requests with Java through Postman.
- Collaborated with executives to identify data-quality issues and implemented processing improvements that reduced problematic addresses by  $\approx 4\%$

### Software Engineering Intern

*ApoSys Technologies*

May 2025 – Aug. 2025

*Mississauga, ON, Canada*

- Engineered a **real-time data processing pipeline** in Python and C++ to transform and analyze multi-sensor streams (RADAR, IMU, GPS).
- Built **scalable backend services** using ROS2-based messaging systems, enabling reliable communication across distributed components.
- Integrated internal tooling to streamline, visualize and inspect sensor data streams, accelerating iteration time during testing and debugging, and reducing false-positive by  $\approx 10\%$
- Presented a **live prototype demonstration** to Hudson Bay Railway Company (HBRy) in Manitoba, gathered performance feedback, and iteratively optimized detection accuracy based on real operator use cases.

### Software Developer | Perception Team

*Queen's AutoDrive Team*

Oct. 2024 – Present

*Kingston, ON, Canada*

- Designed Python modules for real-time 3D data processing, object detection, and environment perception pipelines for an autonomous vehicle.
- Applied libraries Open3D, NumPy, and Matplotlib to refine data preprocessing components (filtering, transformations, ROI), and perform SLAM.
- Optimized a size-based bounding box filter that reduced radar point cloud noise by  $\approx 3\%$ .

## PROJECTS

### Heewon AI (Top 8/133 projects) | *PyTorch, JavaScript, FastAPI, Qwen, Freesolo-Flash*

Jul. 2026

- Fine-tuned a Qwen3.5-9B model with LoRA to write and test JS/WASM proof-of-concepts for V8 vulnerabilities.
- Developed a **SFT & GRPO training pipeline** with multi-turn rollouts and execution-based rewards, improving performance **2.3x** on HackerBench.

### Foot.print | *Flask, PyTorch, Gemini API, OpenCV, Three.js*

Aug. 2025

- Architected a full-stack web application that processes video input into structured 3D spatial representations.
- Built a **CV/NLP pipeline** using Gemini, YOLOv8, and MiDaS to predict object sizes. Automated 3D model generation and self-validation loops using **Gemini** to ensure geometric accuracy.

### ScreamStream | *OpenCV, MediaPipe, Web Audio API, WebSockets*

Nov. 2025

- Designed a **real-time** video control system that translates voice intensity and facial motion into continuous video playback controls.
- Trained a **computer vision system** using OpenCV and MediaPipe to estimate head orientation and detect facial gestures, and integrated audio processing via Web Audio API and WebSockets.