Aaron Rhim

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Email | LinkedIn | GitHub | Portfolio Website

Technical Skills

Programming Languages: Python, Java, C++/C, JavaScript, HTML/CSS, Assembly (Y86)
Frameworks & Libraries: RoboSuite, Flask, React, Node.js, TensorFlow, PyTorch, Tailwind, PostgreSQL
Tools & Platforms: Git, Docker, ROS2, AWS (EC2, S3, DynamoDB, Bedrock), Linux (Arch, Ubuntu), Supabase

Relevant Experience

Software Co-Lead – UBC Rover Sep. 2025 – Present
Python, C++, ROS2, MoveIt2, Linux, RViz2, Mujoco, Robosuite, Git, Docker *Vancouver, British Columbia*

- Developing a Reinforcement Learning (RL) pipeline to complete a task to type on a keyboard with a robotic arm
- Building and managing **all simulations** (firmware and software) for RL (Mujoco), autonomous navigation (RViz2), and ROS2 controllers (RViz2)
- Implementing imitation learning, hierarchical reinforcement learning (HRL), and gathering **real-robot experience** to ensure optimal experience
- Dedicating extended hours (averaging **6+ hours per day**) to understand fundamental operations of all parts of the rover
- Managed project timelines, reviewed PRs, and hosted weekly reviews, ensuring transparency and progress

Software Member – UBC UAS Sep. 2024 – Aug. 2025
C++, ZMQ, YOLO, Tensorflow, PyTorch, Linux, Git, Docker *Vancouver, British Columbia*

- Achieved **2nd place** at the Aerial Evolution Association of Canada (AEAC) in 2025, demonstrating strong performance against top Canadian universities
- Developed an **autoencoding denoiser** based on the using GANs which enhanced image quality for the DL model below
- Applied transfer learning to the YOLOv8 object detection model to seclude IR emission in a live setting, improving overall detection accuracy by **27%**

Project Portfolio

Vennu (Startup) | *Git, n8n, Supabase, Render, Vercel, APIs, JS, React*

- Co-Founded, led, and built an **agentic social platform**, allowing anyone to easily monetize their skills and learn in a community through a robust, automated/agentic pipeline
- Engineered the backend on n8n cloud, featuring a full threaded, multi-step API/web-scraping agents
- Business model surrounds a commission-based fee of 20% where within 2 days of launch, we received around 230 paying students, 8 instructors, and over 13,000 impressions on our social media platforms
- Receiving guidance and mentorship from Aaron Stuart, CEO of VANTEC Angel Network

3D Rendering Engine + ANN Visualization | *Java, Multithreading*

- Self-developed a fully-threaded, mathematically optimized, **custom 3D rendering engine** in Java
- Engineered an interactive viewport with real-time camera control, enabling dynamic navigation through the simulation environment
- Integrated **Artificial Neural Network (ANN)** visualization modules, including Gradient Descent demos, to illustrate learning processes within a gamified 3D simulation context

Portfolio Website | *Vite, Tailwind, Supabase, React, Figma, Adobe Illustrator*

- Created an interactive and fun user experience through a full-stack website powered by Vite, React, and Tailwind CSS, featuring **over 15 projects**

Education

University of British Columbia (UBC) Vancouver, BC
Bachelor of Science in Computer Science | *GPA: 81.79%* *Sep 2024 – Apr 2028*

- **Relevant Coursework:** Machine Learning, Data Structures & Algorithms (Intro & Intermediate), Computer Systems, Computer Hardware and Operating Systems, Linear Algebra (Honours), Discrete Mathematics

UBC Science Co-op