Angus Sun

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EDUCATION

University of Waterloo   Waterloo, ON
BSE Honours Software Engineering   *Sept. 2025 – Apr. 2030*
Relevant Coursework: Programming Principles, Introductions to Methods of Software Engineering, Introduction to Data Abstraction and Implementation, Calculus 1, Calculus 2, Linear Algebra

TECHNICAL SKILLS

Languages: Java, Python, GO, C/C++, SQL (Postgres), JavaScript, Typescript, HTML/CSS, Tailwind CSS
Frameworks: React, Node.js, Next.js, Express
Developer Tools: Git, Docker, Vercel, Render, Prisma ORM, OAuth, MediaPipe

EXPERIENCE

Software Engineer Intern   Feb. 2025 – Aug. 2025
Falcon Technologies   *Vancouver, BC*
- Built a subscription tracker (**Next.js, PostgreSQL, Prisma ORM**) supporting **10,000+** monthly transactions
- Implemented secure authentication (**OAuth + credentials**) and responsive UI with **Tailwind CSS**
- Developed **RESTful APIs** and containerized database with **Docker**, reducing deployment time by **60%**

Robotics Instructor   Jul. 2023 – Sept. 2023
Fleetwood Robotics   *Surrey, BC*
- Instructed **20+** students ages 4-15 in robotics, physics and programming fundamentals
- Managed hands-on learning environments with robotics kits and sensors while ensuring safety protocols
- Developed curriculum combining robotics theory with practical programming applications

PROJECTS

Squat Showdown   /squat-showdown
Award-winning AI fitness game   squat-showdown.vercel.app
- Developed a custom model and state machine to detect real-life squats on camera using **MediaPipe**
- Built **Express** backend leveraging **WebSockets** to synchronize game state across browsers
- **Best AI Hack** at Boost Hacks II hack-a-thon (**1200+ participants**)

Echoblock   /EchoBlock
Raspberry Pi Music Memory Game   echoblock-demo
- Implemented real-time pitch detection in Python using **autocorrelation** and **scikit-learn** classification
- Integrated **Raspberry Pi GPIO** with LED feedback via socket communication
- Built a **Python pipeline** for signal processing **(FFT, interpolation)** to map microphone input to notes
- Designed modular architecture for synchronized game logic, scoring, and visual feedback

Skync   /skync
Real-time collaborative whiteboard   skync-frontend.vercel.app
- Developed a multi-user whiteboard with real-time drawing, image, and text collaboration via WebSockets
- Built a **Socket.IO** backend to synchronize user actions across clients in real-time
- Implemented custom canvas logic for drawing, images, text, selection, resizing, and undo/redo
- Designed a modular UI with dynamic toolbars and color pickers using **React hooks** and CSS modules

Nanopeas Website
Custom e-commerce site for non-profit   nanopeas.vercel.app
- Developed full-stack e-commerce platform for Vancouver nonprofit with responsive UI architecture
- Integrated **PayPal API** with automated fee computation and transactional order-processing backend
- Implemented client-side shopping cart with **localStorage** persistence and real-time inventory control