# Maxime Boucher

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## EDUCATION

**Bachelor of Science in Software Engineering,** *Schulich School of Engineering, University of Calgary (GPA: 3.86/4.00)*

## EXPERIENCE

**Student Developer → VP Tech,** *Code the Change YYC* Oct 2024 – Present

- Lead a **9-developer team** building a Next.js, TypeScript, and PostgreSQL hackathon platform for **200+ users**. Run team meetings, manage priorities and progress in Jira, and plan development through Scrum to keep the project on schedule.
- Built a live-updating booking calendar for the Salvation Army's ride-scheduling app in Next.js, TypeScript, and PostgreSQL, with separate controls for admins, drivers, and agencies.
- Added automatic SMS notifications to the Salvation Army Navigation Centre tool so drivers know as soon as a ride is booked or changed.
- Designed and taught a workshop for ~15 high school students on programming basics and building software with AI tools.

**Undergraduate Researcher,** *University of Calgary (advised by Prof. Ahmad Abdellatif)* May 2026 – Aug 2026

- Benchmarked four small open-source LLMs on code-comment generation against human-authored references. **First-author paper in preparation.**
- Developed a data pipeline to mine 1,000 GitHub repositories in parallel across hundreds of compute nodes, narrowing **85 million** code comments down to the **1.4 million** relevant to the study.
- Scaled LLM inference to **over 5 million generations** on H100 GPUs by sharding the corpus into SLURM job arrays.

**Undergraduate Researcher,** *University of Calgary (advised by Prof. Lorenzo De Carli)* May 2025 – Aug 2025

- Built a Python AI agent that navigates Android apps for GDPR compliance research. It reads each screen using the Android UI hierarchy and EasyOCR, then asks GPT-5 Mini what to tap, swipe, or type next.
- Tested the agent across the 100 most-downloaded Google Play apps: it completed **59%** of tasks overall and **88%** on apps not blocked by 2FA or CAPTCHA.

**Web Developer,** *Freelance / Digitality Marketing* Aug 2023 – Oct 2024

- Designed, built, and launched websites for three small businesses, cutting page load times by **20–48%** and setting up on-page SEO (metadata, HTML tags, image optimization).

## PROJECTS

**CourseCal** Jan 2026 – Present

- Built and launched a Next.js and TypeScript web app used by **40+ students** that parses class schedules from a screenshot with Gemini 3.5 Flash and lets friends compare schedules to find overlapping gaps between classes.

**Robotic Hand** May 2026

- Engineered a robotic hand that mirrors hand movements in real time, tracking finger positions from a webcam with Python and MediaPipe and streaming joint angles over serial to an Arduino. Designed a custom PCB in KiCad to wire the servos.

**Audibly (Hack the Bias 2026)** Jan 2026

- Developed a virtual camera for Zoom and Google Meet that turns sign language into live captions and speech, using Python with OpenCV, MediaPipe, and TensorFlow. Placed **3rd of 19 teams** in a 36-hour hackathon.

## SKILLS

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

**Frameworks & Libraries:** React, Next.js, React Native, Node.js, PyTorch, Hugging Face Transformers, CUDA

**Data & Tools:** PostgreSQL, SQLite, Supabase, Firebase, Git/GitHub, Linux, CI/CD, SLURM/HPC, REST APIs, Claude Code