

Patrick Igiraneza

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GitHub: <https://github.com/vian21>
Portfolio: <https://vian21.github.io>

PROFESSIONAL EXPERIENCE

Software Developer (CO-OP)

May 2023 – Aug 2023

University of Ottawa, Neurotrauma Impact Science Laboratory

- Assisted two PhD students in data collection and dataset preparation for their machine learning research
- Demonstrated excellent time management skills, and effectively balanced multiple tasks and priorities
- Collected and annotated over 6000 images and 3000 videos to be used in training and testing
- Assisted in the training of a **YOLOv8** neural network to detect ice hockey rink landmarks, and improved the overall accuracy by 5% by sanitizing the dataset

SKILLS

- **Programming languages:** Python, Bash, C++, Java, JavaScript, Node.js, Typescript, PHP, Rust, Make
- **Frameworks:** Node.js, React, Next.js, Tailwind CSS, Prisma, Fastify, Vitest, Jest, jQuery
- **Developer Tools:** Linux, Git, Docker, GitHub Actions, Netlify, Google Cloud, Vercel, PlanetScale, **Vim**
- **Network:** OSI model, TCP/IP, DNS, NTP, SSH
- **Databases:** MySQL, PostgreSQL, SQLite
- **CyberSecurity:** Kali Linux, Metasploit, Binary and Web Application **Reverse engineering**
- **Languages:** **English** (Advanced) & **French** (Professional Proficiency)

EDUCATION

Bachelor of Applied Science, Software Engineering (CO-OP)

September 2022 – December 2026

University of Ottawa (Ottawa, Ontario)

- **GPA:** 9.33/10
- Awarded merit scholarships of \$1,000 for academic excellence. Dean's list 2 Semesters
- Available for 4–8 **months** Co-Op internship (January 2024)

PROJECTS

- [Thermocouple ADC Driver](#) (**Rust & C++**): Wrote a **microcontroller** driver that uses a binary search algorithm to convert voltage readings into temperature using a lookup table. Improved software maintainability by documenting and effectively communicating my progress to the team
- [Social Media App](#) (**MySQL, Express.js, React, Tailwind CSS & JWT**): Created a social media application to reconnect high school friends. Included features like WhatsApp-like stories, an Instagram-like feed, and real-time messaging using **WebSockets**. Used **JWT** for user **authentication** and **authorization** through a **RESTful API**
- [School Management System](#) (**MySQL, PHP, PHPMailer & jQuery**): Created a PHP SMS to streamline administrative tasks, generate reports, class lists, and account statements using **TCPDF**. Developed a secure authentication system with account activation and password reset using **UIDs** and **PHPMailer** for email notifications
- [Weight Tracker PWA](#) (**Chart.js, Service Workers, caching & localStorage**): A Progressive Web App (PWA) that can be installed like a native app and works offline. Used a **service worker** to cache essential resources (HTML, CSS & JS) and ensure seamless performance and speed, even in poor network conditions

EXTRA-CURRICULAR

- **Hack The Hill:** Proud member of the development team. Volunteered as a web development **mentor** in the **Wicked Web Work** (January 2023). Participated in the 2023 Hackathon and made a color detection app – **ColorSpy** with a mobile front end in **unity** and back end in **Python**, incorporating **RSA** encryption
- **uORocketry club:** member of the avionics software team and learning Rust for embedded devices
- **OWASP Ottawa member:** Attends InfoSec talks and cybersecurity training sessions
- **Music** (Gospel, Jazz, R&B): Plays the acoustic, electric, and bass guitar, piano and plays in a band every week