GABRIEL FAIGAN

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EDUCATION

University of Waterloo – Bachelor of Honours Software Engineering   *Waterloo, Ontario* | **Sep 2025**
- Elected Class Academic Rep, representing 130+ students in faculty communications
- GPA 90% - President's Scholarship of Distinction

Humber College – Advanced Jazz Ensemble   *Etobicoke, Ontario* | **Sep 2017 - May 2024**

SKILLS

Languages: Java, C, C++, Python, JavaScript, TypeScript, HTML, CSS, SQL, LaTeX

Frameworks/Tools: React, Gemini API, Git, Swing, AWT, GitHub, GitLab, FastAPI, Linux, Flask, Mapbox

Concepts: OOP, Pointers, Memory Allocation, ADTs/Data Structures, APIs, Software Methodology, Version Control, Prompt Engineering

PROJECTS

UWDialed | *React, Flask, Python, MySQL, Mapbox API, Axios* | uw-dialed.vercel.app   **Nov 2025 - Dec 2025**
- Built full-stack web app with **React**, **Flask**, and **MySQL** to help UW students find ideal study spots via personalized recommendation engine.
- Integrated interactive **Mapbox API** campus map and built RESTful endpoints to query study spots and handle user reviews.
- Collaborated in a **5-person team** following **Agile/Scrum** methodology and catalogued **20+ study spots** by surveying classmates.

Lil Beat Generator | *JavaScript, HTML, CSS, Gemini API, MIDI* | beat.faigan.com   **Nov 2025**
- Built AI **MIDI** composition tool using the **Gemini API** to generate unique melodies, harmonies, and beats via natural language prompts.
- Crafted structured prompts to output melodic JSON data for a 32-step sequencer with drum pattern classification.
- Created controls for tempo, playback, note editing, and saving to enable users to customize and import/export generated compositions.

Sorting Algorithm Visualizer | *JavaScript, HTML, CSS* | sort.faigan.com   **Oct 2025**
- Built a **JavaScript** web app featuring **44 sorting algorithm visualizations** to demonstrate real-time efficiency, complexity, and performance.
- Designed intuitive UI with algorithm selection, array size, and speed to enhance educational value and user engagement.
- Integrated Web Audio API with dual oscillators to generate frequency-mapped tones that audibly represent sorting operations.

PulseFire | *Java, Logic Pro, VS Code, Swing, AWT*   **Jan 2025**
- Developed **24-level Java** shooter game using **Swing** and **AWT** with **inheritance** and **polymorphism** for modular enemies and difficulty scaling.
- Implemented **collision detection**, scoring, timing, and SFX to deliver a polished gaming experience and boost player engagement.

Music Production & DJ | *Logic Pro, Reaper, Audacity, MidiTrail, MainStage, VGM Trans, Mixxx*   **Feb 2017 - Present**
- Produced and remixed **100+ tracks** using Logic Pro, Reaper, and Audacity to build an audience of **1,000+ subscribers**.
- Edited **VST plugins** and synthesizers in **C++** to create custom sounds

EXPERIENCE

Orbital Design Team – Software Developer   *University of Waterloo* | **Sep 2025 - Present**
- Worked on CubeSat ground station back-end in **Python/FastAPI** to receive, process, and store satellite telemetry data.
- Consolidated Python project configuration files into a single package manifest to reduce redundancy and streamline dependency management.
- Optimized logging middleware using **Loguru** to capture request/response metadata and improve backend debugging.

Event Entertainment Band – Founder & Band Leader   *Toronto, Ontario* | **Sep 2022 - Present**
- Founded and managed a professional band performing at **10+ events**, coordinating rehearsals and communications to improve client satisfaction.
- Led a **team of 4 musicians**, developing scheduling and workflow systems to streamline operations and **resolve conflicts efficiently.**
- Negotiated contracts and managed client expectations to secure repeat bookings and maintain a strong professional reputation.

Snowhawks & The City of Toronto – Ski Instructor   *Coldwater & Blue Mountain, Ontario* | **Nov 2023 - Mar 2025**
- Taught **130+ students aged 5–70**, adapting teaching techniques to individual skill levels to increase confidence and retention rates.
- Designed personalized lesson plans and drills to improve average student performance by **one ability level per week** of instruction.
- Communicated with parents and guardians to provide progress updates and ensure alignment on student development goals.

Private Piano Instructor – Piano Teacher & Manager   *Toronto, Ontario* | **Sep 2024 - Jun 2025**
- Taught piano technique, music theory, and performance skills to students of varying ages and skill levels in private lessons.
- Adapted lessons to individual learning styles to accelerate student progress and build lasting performance confidence.

LEADERSHIP / EXTRACURRICULAR

Alpha Epsilon Pi Fraternity – Member   *UW & WLU* | **Sep 2025 - Present**
- Organized charity events and raised funds to support community service initiatives and strengthen campus engagement.
- Participated in weekly chapter meetings and brotherhood events to develop leadership skills and build lasting professional connections.

Other interests: Scuba Diving, Mountain-biking, Skiing, Bungee-jumping, Sailing, Multi-day hikes