

# ALEX IMBERT

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## EDUCATION

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### Carleton University & Algonquin College

*Bachelor of Information Technology, Interactive Multimedia and Design*

*5-Year Co-Op Program*

**Expected Graduation:** April 2028

- Third-year standing, CGPA 10.65/12(A-)
- Dean's List: 2023/2024, 2024/2025
- Academic Scholarship: 2023/2024, 2024/2025, 2025/2026

## SKILLS

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|--------------|--------------|----------|
| • C/C++      | • HTML/CSS   | • SQL    |
| • Python     | • Django     | • JIRA   |
| • PHP        | • Git/GitHub | • Agile  |
| • JavaScript | • React      | • French |

## WORK EXPERIENCE

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### Programming Instructor – Code Ninjas (Co-op Term)

June 2025 – August 2025

*Stouffville, Ontario*

- Taught programming fundamentals to summer school students using Python and JavaScript
- Guided students in building robotics projects, games and other coding related projects with emphasis on teaching both coding skills and critical problem solving
- Presented concepts in a classroom setting to groups of 20+ and provided 1 on 1 guidance for troubleshooting code

### Student Power Washing & Restoration Services -- Self Employed

June 2024 – August 2024

*Uxbridge, Ontario*

- Marketed power washing and wood restoration services door-to-door, securing a large job that grew into a series of other projects
- Developed strong marketing skills through frequent client interaction and careful planning of tasks resulting in jobs being completed within the promised timeline
- Delivered high-quality results showcasing responsibility and good time management skills that resulted in satisfied customers

## APPLIED PROJECTS

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### Full-Stack Developer | StrumUp

Django/Python | HTML/CSS | React/JavaScript

- Interactive web app designed to make learning guitar chords engaging and fun where users can practice identifying chords either visually or by listening to chord sounds

- Developed a backend with a REST API supporting easy backend and frontend communication to manage chord data, and persist user progress, and create JWT tokens for secure session management
- Built a structured frontend in React using reusable components to maintain clean, modular code, leveraging useState and useEffect hooks to simplify logic and improve interactivity
- Delivered a polished final project, showcasing the ability to bridge frontend and backend technologies effectively

### 3D Physics Engine

C++ | OpenGL

- Developed a custom 3D physics engine implementing broadphase and narrowphase collision detection, including algorithms such as Sweep & Prune, GJK, and EPA for efficient and accurate collision response
- Applied object-oriented programming principles and low-level memory management to build efficient, scalable systems
- Leveraged linear algebra to simulate realistic motion dynamics, showcasing strong problem-solving and mathematical skills

### Full-Stack Developer | RateMyRoom

Django/Python | HTML/CSS | JavaScript

- Developed a web application where students can rate and review rooms across Carleton University, with hopes to improve transparency and usability of campus spaces
- Contributed to both frontend and backend, showcasing adaptability in full-stack development and effective teamwork
- Collaborated in an Agile Scrum environment, using Jira for sprint planning, task management, and progress tracking

### Camera Controlled Tetris

C++ | OpenCV

- Developed an interactive version of Tetris controlled through real-time camera input, using color tracking to detect and map object movement to in-game controls
- Utilized computer vision techniques to process live video frames, extracting certain colours, and translating them into actions using Digital Signal Processing
- Designed a responsive control system that allows physical actions to influence software behaviour, demonstrating a practical application of computer vision in interactive systems

## LEADERSHIP EXPERIENCE

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### Yearbook Editor

October 2022 – June 2023

*Uxbridge Secondary School, Uxbridge Ontario*

- Collaborated closely with a team of 4 peers to manage and execute the full production of the school yearbook, resulting in the best-selling edition in school's history
- Took on a leadership role by organizing and teaching a class of 20+ grade 11 students new software tools and techniques, streamlining the yearbook creation process and enhancing overall efficiency