

Karl-Alexandre Michaud

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TECHNICAL SKILLS

Programming Languages Python, Java, C, SQL (MySQL), Swift, SwiftUI, JavaScript, Unix shell/bash

Frameworks & APIs: Maven, JUnit, PyTest, Firebase API, OpenAI API

Software Development: Object-Oriented Design, Software Development Life Cycle (SDLC), Unit Testing

Developer Tools: Git, GitHub, JetBrains IDEs (IntelliJ, Pycharm), Visual Studio, Unix Systems (MacOS, Linux)

Other: Bilingual (French & English)

EDUCATION

Honours Bachelor of Science, University of Toronto (St. George)

May 2027

Computer Science and Mathematics Double Major, Arts and Science Internship Program (co-op)

- **Relevant Courses:** Software Tools and Systems Programming, Software Design
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PROJECTS

RecycloBot (Hackathon) | SwiftUI, Swift, Python, Firebase API, OpenAI API, Git

January 2025

- Co-developed an AI-powered waste management system that integrates hardware and software, utilizing computer vision and OpenAI API for real-time waste classification
- Developed an iOS application that processes real-time waste classification data from a custom-built smart trash bin, enabling AI-powered sustainability insights for users
- Demonstrated adaptability, problem-solving, and rapid prototyping in a fast-paced, collaborative 24-hour hackathon, ensuring seamless hardware-software integration

Talk To a Club | Java, Maven, JUnit, Firebase API, Git

November 2024 - December 2024

- Engineered the enterprise business rules layer, designing scalable and robust entities
- Developed critical use cases in the application business rules layer, showcasing back-end expertise
- Built and optimized data pipelines for Firebase cloud storage, ensuring efficient and reliable data retrieval
- Improved software quality by writing 45% of unit tests, conducting code reviews, and optimizing code
- Created and maintained technical documentation, strengthening my written communication skills
- Applied Clean Architecture, SOLID principles, design patterns, and Software Development Life Cycle (SDLC), enhancing maintainability and scalability

Key Card System | Python, JavaScript, MySQL, Linux shell

September 2022 - March 2023

- Led a team of 4 to develop a secure key card system, improving safety awareness for 200+ students
 - Designed and managed a remote MySQL database on a Linux Server, ensuring scalability and efficiency
 - Managed project timelines, coordinated team meetings, and optimized workflows, ensuring successful completion a month ahead of schedule, and demonstrating my time management skills
 - Delivered a technical presentation to 50+ students and faculty at CESI Engineering School, showcasing technical verbal communication skills
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EXTRACURRICULAR EXPERIENCE

STEP UofT Student Club – Event Coordinator

August 2024 - Present

- Organized events with 15+ attendees while managing a full-time course load, strengthening my time management and organizational skills
- Facilitated the onboarding of 25+ new members, improving engagement through clear communication and multidisciplinary team collaboration