

# MOUAD BEN LAHBIB

Ottawa, ON K1S, Canada

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## SKILLS

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<b>Languages</b>	English, French, Arabic – Native/Full Proficiency
<b>Programming</b>	Python, Java, Go, JavaScript, TypeScript, React (Web & Native), Node.js, CSS, SQL
<b>Tools/Methods</b>	Docker, Git/GitHub, Firebase, Jira, Scrum, Linux
<b>Development</b>	Software Dev, Web Dev, Algorithm Design, Data Structures, Debugging

## EDUCATION

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**Bachelor of Computer Engineering (Co-op)**, *University of Ottawa* *Sep 2021 – Dec 2025 (Expected)*

- Dean's Honour List (9.0/10 TGPA).
- Tuition Fee Exemption (\$38k/yr); Merit & Jean-Pierre Martin (\$1k each); Mobility & Intl Coop Eng. (\$1.5k).

## RELEVANT EXPERIENCE

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**Software Developer (Volunteer)**, *Hack The Hill, Ottawa* *Feb 2025 – Sep 2025*

- Contributed to the official Hack the Hill website as part of the Development team using Astro, React, and CSS Modules.
- Designed and implemented a dedicated “Winners” section to highlight Hack the Hill II champions, with localized content and responsive image layouts.

**Programming Instructor (Co-op)**, *University of Ottawa, Canada* *Sep 2024 – Dec 2024*

- Developed and delivered STEM workshops (Python/Javascript) integrating microcontrollers, 3D printers and VR.
- Trained educators in coding best practices, managed classrooms, and supported students with special needs.
- Designed coding challenges and projects to enhance problem-solving and algorithmic thinking.

**Software Engineer Intern (Co-op)**, *Nidal Info, Morocco* *Jun 2023 – Sep 2023*

- Built and maintained internal web tools for telecom equipment management(React, HTML, CSS, Node.js, SQL).
- Automated IT monitoring tasks using Python, and optimized network performance with Wireshark.
- Refactored a legacy codebase to enhance performance, scalability, and maintainability; applied Git for version control and followed Agile development practices.

**Data Analyst**, *Elemental Data Collection Inc. Ottawa, Canada* *Mar 2022 – Jun 2022*

- Automated data entry via Python (40% time savings) and conducted SQL/Excel analyses for stakeholders.
- Developed a web-based dashboard to visualize survey data, enabling real-time insights for stakeholders.

**IT Help Desk Analyst**, *NTT, Ottawa, Canada* *Jun 2022 – Sep 2022*

- Troubleshooted payment issues, handled account verifications, and processed credit limit changes using CRM.
- Documented recurring technical issues, managed customer interactions and case resolution.

## RELEVANT PROJECTS

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### eHotels – Hotel Booking System

- Developed a full-stack hotel reservation web application using PHP for backend logic, MySQL/MariaDB for the database, and HTML, CSS, and JavaScript for the user interface.
- Implemented distinct portals and workflows for Customers (registration, login, multi-criteria room search, booking, viewing bookings) and Employees (login, check-in processing, direct rentals, CRUD management for hotels, rooms, etc.).
- Designed and implemented the relational database schema in MySQL; leveraged PDO for database interactions and incorporated views, indexes, and triggers to ensure data integrity and optimize performance.

### Capstone Project – TAILS

- Developing TAILS, a modular full-stack aerial solution using React Native, Expo Go, AI-based video analysis, real-time geolocation APIs, and PostgreSQL for search, rescue, and wildlife tracking.

## Multiverse Tetris – uOttahack 7 Hackathon Challenge

- Engineered a multi-board Tetris variant with AI managing up to six boards, allowing dynamic player takeovers.
- Designed heuristic-based AI for piece placement, enabling seamless manual control when AI encounters new scenarios.
- Built with JavaScript, React, and HTML5 Canvas, optimizing state synchronization, input handling, and rendering.

## FilmForge – Multi-Paradigm Movie Recommendation Engine

- Implementing recommendation algorithm in Java (OO), Go (Concurrent), Prolog (Logical), and Scheme (Functional) using Jaccard similarity and collaborative filtering techniques.

## Portfolio Website – [Mouadbenlahbib.tech](http://Mouadbenlahbib.tech)

- Built a full-stack portfolio using React, Tailwind CSS, and Firebase to showcase projects and skills.
- Integrated an AI-powered chatbot for interactive technical interview simulations.
- Implemented dynamic animations, dark/light mode, and Google Analytics for an engaging user experience.

## OTHER EXPERIENCE

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<b>Technical Exam Support Proctor</b> , <i>University of Ottawa, Canada</i>	<i>Jan 2025 – Present</i>
· Monitored computer-based exams, provided technical support, and configured accessibility software with NetSupport.	
<b>Translations Commissioner (Volunteer)</b> , <i>IEE uOttawa student branch, Ottawa, Canada</i>	<i>Sep 2025 – Present</i>
<b>Webmaster (Volunteer)</b> , <i>Uottawa Boxing Club, Ottawa, Canada</i>	<i>May 2025 – Present</i>
<b>Bilingual Sales Representative</b> , <i>Pragma, Longueuil, Quebec, Canada</i>	<i>Jun 2024 – Jan 2025</i>
· Handled service bookings for 1-800-GOT-JUNK?, optimizing scheduling and contributing to \$170k in total sales.	
<b>Bilingual Market Research Interviewer</b> , <i>Elemental Data Collection Inc., Ottawa, Canada</i>	<i>Feb 2022 – Jun 2022</i>
· Conducted bilingual surveys, analyzed market trends, and generated data reports to improve engagement.	

## OTHER PROJECTS

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### Demon Slayer – 2D Action Platformer Game

- Developing a 2D action platformer with real-time physics, multi-level platforms, and enemy AI using Pygame.
- Implementing a cooldown-based projectile system with multiple attack types and dynamic enemy behaviors.
- Designing platform collision detection, jumping mechanics, and combat interactions for an engaging experience with 60 FPS performance.

### Stingray Robot – Obstacle Avoidance System

- Engineered real-time obstacle avoidance on a Raspberry Pi-powered robot, integrating multi-threaded processing for sensor fusion and motor control on Raspberry Pi OS.
- Designed and tuned a PID controller, leveraging wheel encoders and an HC-SR04 sonar sensor for adaptive trajectory correction and dynamic path adjustments.
- Optimized system responsiveness through concurrent execution, ensuring seamless navigation in real-world environments.

### FPGA – Based Traffic Light Controller

- Designed a finite state machine using VHDL to control traffic signals on an Altera Cyclone IV FPGA.
- Simulated and synthesized the design in Quartus & ModelSim.

### UART – Communication Protocol Implementation

- Designed and tested a Universal Asynchronous Receiver-Transmitter (UART) module.
- Integrated with the FPGA using SystemVerilog for real-time communication.

## CERTIFICATIONS

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### Test de connaissance du Français – Canada (TCF-Canada)

*Issued Feb 2025*

- C1 French proficiency certified by Alliance Française Ottawa.