

MOUAD BENLAHBIB

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SKILLS

Languages	English, French, Arabic – Native/Full Proficiency
Programming	Python, Java, C++, Go, JavaScript, TypeScript, React (Web & Native), Angular, Node.js, CSS, PostgreSQL
Tools/Methods	Git/GitHub, Firebase, Google Analytics, Jira, Scrum, Linux
Development	Software Dev, Web Dev, Algorithm Design, Data Structures, Debugging

EDUCATION

Bachelor of Computer Engineering (Co-op), *University of Ottawa* *Sep 2021 – Jun 2026 (Expected)*

- Tuition Fee Exemption Scholarship (\$38k/year) & Jean-Pierre Martin Scholarship (\$1k).

RELEVANT EXPERIENCE

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

- 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.

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

- Developed and delivered STEM workshops (Python/Java) 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 (Frontend: Angular, HTML, CSS), (Backend: Node.js, SQL).
- Automated IT monitoring tasks using Python, and optimized network performance with Wireshark.
- Refactored a legacy codebase to improve performance, scalability, and maintainability; used Git and followed Agile development practices.
- Automated IT monitoring tasks with Python, and used Wireshark to analyze and optimize network performance.
- 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.

Bilingual Technical Support 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

eHotels – Booking System Database

- Developed a full-stack hotel booking system using Java (Spring Boot), PostgreSQL, and React.
- Designed RESTful APIs for secure user authentication, payments, and reservation handling.
- Implemented backend logic and database schema with Spring Data JPA and PostgreSQL.

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 – uOttawaHack 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

- 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

Exam Proctor, *University of Ottawa, Canada*

Jan 2025 – Present

- Monitored computer-based exams, provided technical support, and configured accessibility software with NetSupport.

Bilingual Sales Representative, *Pragma, Longueuil, Quebec, Canada*

Jun 2024 – Jan 2025

- Handled service bookings for 1-800-GOT-JUNK?, optimizing scheduling and contributing to \$170k in total sales.

Bilingual Market Research Interviewer, *Elemental Data Collection Inc., Ottawa, Canada*

Feb 2022 – Jun 2022

- Conducted bilingual surveys, analyzed market trends, and generated data reports to improve engagement.

OTHER PROJECTS

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

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

Issued Feb 2025

- C1 French proficiency certified by Alliance Française Ottawa.