

Meryem El Moutaouakkil

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Engineering student at the University of Ottawa combining chemical engineering fundamentals with computing skills in data analysis, databases, and process optimization. Seeking internships/co-op roles in engineering, operations, analytics, or technical project support.

EDUCATION

B.A.Sc. Chemical engineering & B.Sc. Computer Technology (Dual degree)

University of Ottawa, Ottawa, ON

2023 - 2028

TECHNICAL SKILLS

Engineering: Heat transfer, Fluid mechanics, Thermodynamics, Process calculations, Mass balances, Experimental design, Technical reporting

Software & Analysis: Excel (Advanced), VBA, SQL, Python, Java, Data Visualization, Onshape

Laboratory: Data collection, Instrumentation, Calibration, Uncertainty analysis, Safety procedures, Report writing

Languages: French, English, Arabic

ACADEMIC PROJECTS

Thermal System Design Project – Engine Fin Optimization

Jan 2026 - Apr 2026

University of Ottawa | Heat transfer

- Performed thermal analysis of finned engine surfaces to improve passive cooling efficiency.
- Calculated heat transfer rates for multiple fin geometries under natural and forced convection.
- Optimized fin spacing, thickness, and length subject to physical constraints.
- Used engineering judgment to evaluate durability, manufacturability, and cooling trade-offs.
- Documented methodology and results in formal technical report.

Air Quality Sensor – Industrial Monitoring Project

Sep 2025 – Dec 2025

University of Ottawa | Technology Entrepreneurship for Engineers and Computer Scientists

- Designed an air quality monitoring system using low-cost sensors to detect particulate matter and industrial pollutants
- Generated a comprehensive startup business plan covering technical, economic, and legal aspects
- Conducted market research, customer validation, and regulatory analysis
- Assessed cost structures, pricing strategies, and compliance requirements

Engineering Design Project – Artificial Pollination System for Sustainable Agriculture

Jan

2024 – Apr 2024

Client: Wonder Family Foundation

<https://makerepo.com/Meryem/1958.gng1503-f31-noe>

- Designed an innovative artificial pollination system using ultrasonic frequencies to stimulate pollen movement, reducing reliance on natural pollinators (like bees) and minimizing human intervention.

- Developed a mobile mechanism to ensure uniform pollination coverage and improve crop yield consistency.
- Conducted problem analysis, concept generation, and solution evaluation.
- Collaborated in a multidisciplinary team to document technical specifications, environmental impact, and system performance, contributing to a complete engineering design report and prototype plan.

Technical Laboratory Experience

Sep 2023 – Present

- Conducted experimental laboratory work in circuits and electric machines, physics, physical chemistry, fluid flow, and chemistry
- Used laboratory instrumentation to collect, measure, and analyze experimental data
- Debugged experimental setups and compared measured results with theoretical models
- Prepared formal technical lab reports

WORK EXPERIENCE

Canada Revenue Agency, Ottawa, ON

Jun 2023 – Jan 2025

HR Assistant

- Managed high-volume confidential data records with strong accuracy and attention to detail.
- Coordinated requests across multiple departments while meeting deadlines.
- Reviewed documentation for compliance with internal policies and procedures.
- Coordinated cross-functional HR and IT teams to support end-to-end recruitment operations.
- Supported process improvement through organized tracking and reporting.

LEADERSHIP

EnviroCentre | Plant Your Place - Volunteer

Jun 2026 - Jun 2026

- Assisted with Unloading trees, welcoming participants, confirming names/orders, directing vehicles on-site
- Helped load trees into participant vehicles

University of Ottawa Outreach Office, Student Affairs | Mentor for French and math activities – School of the Greats (in French)

Sep 2023 - Dec 2023

- Helped 5th and 6th Grade students strengthen their French and math skills through fun and educational activities.
- Designed and facilitated sessions tailored to individual needs, promoting learners' understanding, confidence and autonomy,
- Collaborated with other mentors to monitor student progress and adjust teaching strategies.

AWARDS AND SCHOLARSHIPS

- **Andrew Moffitt Memorial Fund** 2025
- **Chemical Engineering Schol.** 2025
- **W.Brisson-Underg. (Year 3)** 2025
- **Volunteer of the battle against the elevator: University of Ottawa Food Bank** 2023
- **Merit Scholarship: University of Ottawa, ON** 2023