

Zachary Djerdjouri

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EDUCATION

B.S. in Computer Science and Mathematics

University of Ottawa

Ottawa, ON

Expected Graduation, May 2027

- **CGPA:** 9.9/10.0
- **Relevant Coursework:** Computing in Python and Java, Databases, Computer Architecture, Data Structures and Algorithms, Linear Algebra.

EXPERIENCE

Research Software Engineer Intern

National Institute of Scientific Research (INRS)

Québec, QC

May 2024 – Aug 2024

- Worked on image processing with **Python's OpenCV** for permafrost erosion experiments and other research projects.
- Redeveloping data acquisition system using LabView and Python for the Environmental Hydraulic Laboratory (LHE).
- Created a dashboard utilizing **Python's Dash, Plotly, Pandas and NumPy** modules to compute wave equations, plot wave signals and generate binary files for use in wave flumes.
- Recipient of NSERC's Undergraduate Research Award

PERSONAL PROJECTS

AI Web Scraper Application

[Project GitHub](#)

Python, Selenium, BeautifulSoup, Streamlit, Ollama 3.1, LangChain

- Utilized BeautifulSoup, lxml, and html5lib to clean and structure raw HTML data efficiently.
- Integrated Ollama 3.1 model via langchain_ollama for advanced AI-driven data parsing and analysis.
- Built a user-friendly interface with Streamlit for easy interaction and real-time data visualization.

Movie Recommendation Search Engine

[Project GitHub](#)

Python, NumPy, Pandas, Sklearn, Jupyter Notebooks

- Cleaning data set of over 160,000 users with Python Pandas and NumPy
- Implemented an algorithm to recommend movies based on similar user interests, leveraging the over 25,000,000 ratings in the data set.

Social Media Web Application

[Website](#)

Python, Flask, HTML, CSS, SQL Lite

- Developed a social media web application using Python and Flask, resembling Twitter.
- Key features include account creation, log in, log out, likes, and comments, with data securely stored in a backend database and shared among logged-in users.

Portfolio Website

[Website](#)

Python, JavaScript, Django, HTML, CSS, SQL Lite

SKILLS

- **Programming:** Python, JavaScript, Java, HTML, CSS, SQL Lite, C, Flask, Python Pandas, NumPy, Matplotlib, Plotly, Dash, Django, Streamlit, Selenium, BeautifulSoup, langchain, Spring Boot, React, Pytorch, TensorFlow.
- **Tools:** Visual Studio Code, IntelliJ, PyCharm, VS Code, Jupyter Notebooks, Git, Bootstrap, GitHub, GitLab, LaTeX.
- **Communication:** Fluent in French and English, Microsoft Suite, Word, Outlook, Microsoft Excel, PowerPoint.
- **Mathematical and Logical Reasoning:** Distinctions at Fermat Mathematics Competition of the University of Waterloo.

LEADERSHIP ROLES/EXTRACURRICULARS

Computer Science Student Association

Vice-President of Communications

University of Ottawa, Ottawa, ON

Oct 2023 – May 2024

- Crafted monthly newsletters in French and English for over 1,100 students using HTML and CSS.
- Organized Frost Week activities led fundraising campaigns, and managed social media accounts.

UOrover Rover Team**University of Ottawa, Ottawa, ON***Team Member (Guidance, Navigation and Control sub-team)**Nov 2023 – Present*

- Refactored GPS node code to be more modular using ROS2 and Python on Ubuntu Virtual Machine.
- Tested GPS code for migration towards a new version of ROS, contributing to automation of the rover's driving.

Computer Science Student Association**University of Ottawa, Ottawa, ON***Frosh Week Guide**Aug 2024 – Sept 2024*

- Facilitated the integration of first-year students by organizing and leading orientation activities.
- Coordinated icebreaker events and campus tours to help new students familiarize themselves with the university environment.