

Rakshita Mathur

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SKILLS

Programming: Python, Java, SQL

Frameworks and technologies: TensorFlow, PyTorch, NetworkX, AWS

Tools and methodologies: Agile (Scrum), Debugging (GDB, memory tools), Git, Unit testing (TDD), Linux Development Environment, Wireshark

Additional Skills: Machine Learning (ML), Natural Language Processing (NLP), Large Language Models (LLMs), Computer Vision, Networking (TCP/IP)

EDUCATION

University of Ottawa

Ottawa, Ontario

B.Sc. Honors in Computer Science

Graduated, April 2024

- **Concentration:** Data Science
- **Related Coursework:** Data Structures & Algorithms, Information Retrieval, Machine Learning, Artificial Intelligence, Statistics & Applications

EXPERIENCE

G2i.inc

Remote, Ottawa

Software Developer AI Data Training - Freelance

June 2024 – Present

- Optimized AI data training for RLHF, boosting model accuracy by 15% through refined data labeling.
- Ranked 1,000+ prompts, improving labeling accuracy by 25% and enhancing model structure.
- Collaborated with 5+ developers, achieving 20% faster data processing with efficient training methods.

Voice Directed Tally System

Remote, Ottawa

Python Developer- Freelancer

November 2023 – February 2024

- Led Android ML upgrade by integrating OpenCV, improving compatibility by 20% and cutting processing time by 15%.
- Compiled over 200 code modifications, creating a comprehensive reference guide that elevated overall team productivity by 30%

PROJECTS

Community Detection Using GNN

Ottawa, Ontario

Team Member

September 2023 – December 2023

- Built scalable infrastructure for Social Network Analysis on GitHub data with 37,000 nodes, leveraging Kubernetes for containerized deployment and parallel processing.
- Employed Graph Neural Network (GNN), Naive Bayes, and Logistic Regression, achieving 87.82% accuracy in binary node classification, optimized for pipeline automation

Information Retrieval System with NLP and Automation

Ottawa, Ontario

Team Member

March 2023 – April 2023

- Engineered Information Retrieval System in Python with NLTK, Doc2Vec, and a TF-IDF weighting model for document ranking, creating an inverted index of 450,000 words for optimized retrieval.
- Automated tokenization, stop-word removal, and query expansion, improving system speed and ranking accuracy across 50 test queries using MLOps principles.

Automated Object Detection Using DBSCAN for Outlier Analysis

Ottawa, Ontario

Team Member

November 2022 – December 2022

- Enhanced outlier detection accuracy by 20% through a Java-based DBSCAN algorithm, visualizing results in Python.
- Maintained code stability with unit testing and continuous integration practices, delivering a reliable and secure solution.

CERTIFICATES

- **Introduction Data Science By IBM** *April 2020*
- **Applied Data Science By IBM** *April 2020*
- **IBM Data Science By IBM** *March 2020*

ACTIVITIES AND LEADERSHIP

uOConnexion

Ottawa, Ontario

Volunteer

September 2021 – December 2023

- Organized 10+ student events to boost engagement and mentored 5 volunteers, demonstrating effective teamwork and leadership in community initiatives.