

Rakshita Mathur

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EDUCATION

University of Ottawa

Ottawa, Ontario

B.Sc. Honors in Computer Science

Graduated, December 2023

- **Concentration:** Data Science
- **Related Coursework:** Data Structures & Algorithms, Software Quality Assurance, Information Retrieval, Machine Learning, Artificial Intelligence, Object-Oriented Programming, Statistics & Applications.

EXPERIENCE

Voice Directed Tally System

Remote, Ottawa

Python Developer- Freelancer

Nov 2023 – Present

- Led Android ML upgrade, replacing scikit-learn with OpenCV for a 20% boost in compatibility.
- Integrated OpenCV using Python scripts, cutting processing time by 15% for a more responsive system.
- 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

- Led Social Network Analysis on GitHub user data with 37,000 nodes.
- Employed Graph Neural Network (GNN), Naive Bayes, and Logistic Regression for binary node classification.
- Attained 87.82% average accuracy with GNN and a solid 83.42% accuracy with Logistic Regression in binary classification.

Information Retrieval System

Ottawa, Ontario

Team Member

March 2023 – April 2023

- Engineered Information Retrieval System in Python using NLTK, Doc2Vec, Query Expansion and Vector Space Model.
- Tokenized and Removed Stop words from 322 word files, creating an inverted index of 450,000 words.
- Employed TF-IDF weighting scheme and cosine similarity to rank documents on 50 test queries, resulting in an efficient information retrieval system.

Object Detection Using DBSCAN

Ottawa, Ontario

Team Member

November 2022 – December 2022

- Enhanced outlier detection by 20% using a Java-based DBSCAN algorithm.
- Implemented the algorithm for GPS coordinate clustering and visualized the result using python.
- Guaranteed code quality, stability, and comprehensive documentation through performance evaluations and unit testing.

CERTIFICATES

- **Statistic with Python** By the University of Michigan May 2020
- **Introduction Data Science** By IBM April 2020
- **Applied Data Science** By IBM April 2020
- **AI Foundations for Everyone** By IBM April 2020
- **IBM Data Science** By IBM March 2020
- **Python for Everybody** By the University of Michigan November 2019

ACTIVITIES AND LEADERSHIP

uOConnexion

Ottawa, Ontario

Volunteer

September 2021 – December 2023

- Orchestrated 10+ student events, increasing engagement by 25%, mentored 5 volunteers for a 30% boost in participation, showcasing effective teamwork and organizational impact in community service initiatives.

SKILLS

Programming: Python, Java, HTML, CSS.

Framework & Technologies: TensorFlow, pyTorch, MySQL, AWS, SkLearn, NetworkX.

Tools & Methodologies: Agile, Debugging, Docker, Git, Jupyter Notebooks, Linux, User testing, Wireshark.

Additional Skills: Natural Language Processing, Computer Vision, Graph Neural Networks.