RUCHIT DOBARIYA

+1(438) 926-6504 ⋄ Montreal, QC, Canada
ruchitdobariya307@gmail.com ⋄ LinkedIn⋄ LinkedIn⋄ Github

EDUCATION

Concordia University, Montreal (September 2022 - Present)
Master of Applied Computer Science

Gujarat Technological University (July 2018 - May 2022)
Bachelor of Computer Science

SKILLS

Programming: Python, Java, C/C++, Javascript
FrameWorks / Operating Systems: Flask, FastApi, Django, TensorFlow, PyTorch, Linux
Database Management: InfluxDb, SQL(MySQL), NoSQL
DevOps: Docker, Kubernetes, Kubeflow, Google Cloud Platform, Camunda
Other Tools: Git

EXPERIENCE

Ericsson (September 2023 - Present)
Machine Learning Intern *Montreal, Canada*

- Implementing **Multi-Agent Framework** in **Python** and **Java**, as well as engineering Data Parsers and Database Schema to **optimize** 5G network efficiency and reduce Query response time.
- Integrating **Camunda** workflows to streamline processes and reduce operational bottlenecks.
- **Researching** and actively contributing to the implementation of **ML algorithms**, resulting in an **improvement** in predictive analytics accuracy and contributing to a enhancement in overall network performance.

Orena Solutions (January 2022 - April 2022)
Machine Learning Intern *Vadodara, India*

- **Developed** a **CNN model** utilizing **Transfer Learning** and **Data Augmentation Techniques**, achieving **92.54% accuracy** in **Brain Tumor Classification**.
- **Optimized hyperparameters** and **evaluated model performance**, leading to improved accuracy and **robustness**.
- Engineered end-to-end automated machine learning workflows utilizing **Git version control**, resulting in a **40% reduction in development time** and a **20% improvement in code quality**.

PROJECTS

Kubeflow-GNN - Python, PyTorch, Kubeflow (github)

- **Utilized SAGEConv** to perform **link property prediction** in **documents citation network data (ogbl-citation2)**, achieving an accuracy of **87.6%**.
- **Deployed GNN model Training** as **PytorchJob in Kubeflow**, which implements Pytorch training operator, resulting in a **20% reduction in training time**.
- **Implemented DDP (DistributedDataParallel)** for **Distributed Training** of the model, measuring accuracy and training time with **different epochs** (e.g., 50) and **number of workers** (e.g., 4), and observed a **12% increase in accuracy** with 4 workers.

Analysis of First Fit and CBIP Algorithms on Online Graph Coloring (github)

- Designed and developed a **React Application** to analyze and compare the performance of **algorithms** for **Online Graph Colouring**.
- Executed **algorithms** in **JavaScript** to colour the nodes of an **online graph** as they arrive in **real-time**.
- Conducted **experiments** to evaluate the efficiency of **algorithms** on different types of graphs, including **random, Erdős-Rényi, and scale-free graphs**.

Two Phase Multiway Merge Sort (TPMWMS) - Java (github)

- Utilized **the TPMWMS algorithm** to **partition and sort input files** in **main memory-sized runs**, and **wrote the runs back to disk**.
- Merged the **sorted runs** from each file in the second phase using a multiway merge algorithm that minimized disk I/O.
- Optimized **sorting and merging** by caching frequently accessed blocks in a **buffer manager** and **fine-tuned program parameters** using **profiling tools and parallel processing**.
- Conducted **optimizations** including experimenting with **run size** (e.g., 1000), **merge passes** (e.g., 5), and **buffer size** (e.g., 512 KB).

Blog Web App - Python, Flask (github)

- Utilized **Flask** framework to build the backend of the application, ensuring a lightweight and modular structure.
- Employed HTML, CSS, and Jinja2 templating for creating a responsive and visually appealing user interface.
- Integrated a relational database **PostgreSQL** for efficient data storage and retrieval.