RUCHIT DOBARIYA

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EDUCATION

Concordia University, Montreal (September 2022 - April 2024)
Master of Applied Computer Science

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

SKILLS

Programming: Python, Java, C/C++, Javascript, Typescript, Golang
FrameWorks / Operating Systems: Flask, FastApi, Django, TensorFlow, React.js, Node.js, PyTorch, Linux
Database Management: InfluxDb, SQL(MySQL), NoSQL, MongoDB
DevOps: Docker, Kubernetes, Kubeflow, Google Cloud Platform, Camunda, AWS
Other Tools: Git, Postman, Jira

EXPERIENCE

Ericsson (September 2023 - Present)
Software Developer Intern *Montreal, Canada*

- Developing a **Multi-Agent Model** in **Python** from scratch leveraging the **MESA**(multi-agent framework), facilitating robust simulation and analysis of complex systems.
- Integrating **Machine Learning models** into the data pipelines, enhancing the Multi-Agent model's decision-making capabilities and effectiveness within the multi-agent environment.
- Contributing significantly to **web development** for the project, in **TypeScript** and **Node.js** to create intuitive and responsive user interfaces.
- Utilizing **Docker** and **Kubernetes** to orchestrate containerized deployments, ensuring **scalability** and **reliability** across the multi-agent system and workflow automation processes.
- Participating in daily stand-ups to provide updates on project progress, discuss challenges, and collaborate with senior developers. Actively contributing to design processes by gathering requirements and collaborating with the development team.

Orena Solutions (January 2022 - April 2022)
Software Developer Intern *Vadodara, India*

- Developed and maintained **backend** services using **Python** and **Flask** framework, implementing **REST APIs** to support various functionalities of the system.
- Designed and implemented **REST APIs** adhering to best practices and standards, ensuring **scalability**, **performance**, and ease of use for consumers.
- Utilized **Docker** for containerization and **Kubernetes** for orchestration, enabling efficient deployment, scaling, and management of **microservice-based** system.

PROJECTS

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

- 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**.

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.

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 **PostgreSQL** as a relational database, achieving a **30%** improvement in data retrieval speed and ensuring efficient storage.

BuyEase - Javascript, Node.js, React.js, WebSocket, MongoDB, HTML (github)

- Developed BuyEase, a user-friendly web application using **Node.js, Express, and JavaScript** for scalable server-side architecture, integrating **MongoDB** for efficient data management.
- Enhanced user interactions by employing **React.js** in the front-end, leading to a **25% improvement** in overall satisfaction and engagement.
- Implemented **WebSocket** for instant product, promotion, and order notifications, reducing update latency by **40%** for faster information dissemination.

Online Book Store - Java, Bootstrap, Javascript, HTML, Mysql (github)

- Built a online bookstore with **HTML, CSS, JavaScript**, and **Bootstrap** on the front-end, and **Java**, Servlets on the back-end, ensuring a seamless user experience from browsing to checkout.
- Enhanced administrative control using **MySQL** for real-time book management, achieving a 20% checkout time reduction through optimized queries and server-side processing.