

JOSEPH MOHANTY

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EDUCATION

Rice University

M.S in Computer Science (Data Science and Machine Learning) GPA: 3.7/4.0

Relevant Coursework: Machine Learning, Probabilistic Data Structures, Project Management

Aug 2023 – Dec 2024

Houston, TX, USA

Manipal Institute of Technology

B.Tech in Computer Science (Minor: Computational Intelligence) GPA: 3.5/4.0

Relevant Coursework: Computer Networks, Operating Systems, Database Management

Jul 2018 – Aug 2022

Manipal, KA, India

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, JavaScript, Go

Databases: MS SQL Server, Oracle SQL DB, PostgreSQL, MongoDB

Libraries/Frameworks: PyTorch, TensorFlow, Django, Flask, Spring Boot, ReactJS, NodeJS, GraphQL, JUnit, Mockito

DevOps and Tools: CI/CD, GitHub Actions, Jenkins, Linux

Cloud Technologies: Heroku, GCP, AWS (Learning), Docker (Learning)

EXPERIENCE

Rice University

Software Research & Development Intern (C++, CUDA, Python, GitHub Actions, LLMs)

Houston, TX, USA

May 2024 – Dec 2024

- Developed **Ein-Summable** - A system to help run Machine Learning tasks concurrently across computers.
- Integrated Llama 3 with CUDA, achieving significant reductions in latency and **boosting LLM inference speed by 40%**.
- Facilitated the setup of CI pipelines, **streamlining the testing process and reducing deployment cycles by 50%**.

UBS

Software Engineer (Java, SpringBoot, Oracle SQL, Kafka, Shell Scripting)

Pune, MH, India

Jul 2022 – Jul 2023

- Led bi-weekly code release activities; Deployed application enhancements; **improving client satisfaction by 30%**.
- Drove the design and implementation of Shell Scripts, **reducing manual workloads by 15%**.
- Led collaborative debugging sessions with cross-functional teams, fostering knowledge sharing and **improving development speed by 20%**.

Software Engineering Intern (Python, Oracle SQL, Unix, Agile, Scrum)

Jan 2022 – Jun 2022

- Automated mapping of ESG files, **reducing manual effort by 70%**.
- Coordinated analysis of downstream data**, uncovering key trends and insights; **improving quality of deliverables by 60%**.

NTT Data Payment Services

Product Engineering Intern (Java, JUnit, Mockito, SpringBoot, SonarQube)

Mumbai, MH, India

Jan 2021 – Sept 2021

- Extraction of Merchant IDs using Python; **Reduced errors in pre-processing by 80% by eliminating faulty IDs**.
- Implemented Unit Tests** for an Online Transaction Switch (OTS) and ensured **code coverage to be greater than 90%** using SonarQube.

PROJECTS

URL Shortener

Rice University

- Implemented the backend using **GoLang** to deliver high-concurrency capabilities and efficient processing for handling heavy workloads, **achieving reductions in latency**.
- Engineered a high-speed URL retrieval and storage system by **implementing MongoDB's horizontal scaling features**, which enabled **seamless handling of over 500 concurrent requests** during peak traffic periods without performance degradation.
- Developed RESTful APIs** for creating, retrieving, and managing shortened URLs, achieving a **99.9% uptime** during stress testing with **1,000+ concurrent requests**.

Intelligent Query Optimization

Rice University

- Optimized large-scale document retrieval** by fine-tuning the SentenceTransformer all-MiniLM-L6-v2 model, **achieving a Precision@k of 82% and a NDCG@10 of 75%**.
- Leveraged **Dynamic Bloom Filters** to improve cache efficiency and scalability, **reducing false positive rates to below 0.05%** and **enhancing memory utilization by 20%**.