

JOSEPH MOHANTY

✉ jm215@rice.edu 📞 (346)638-2756 🌐 josephmohanty.me in joy-mohanty 📺 joymohanty8999

EDUCATION

Rice University

M.S in Computer Science GPA: 3.73/4.0

Aug 2023 – Dec 2024
Houston, TX, USA

Manipal Institute of Technology

B.Tech in Computer Science GPA: 3.45/4.0

Jul 2018 – Aug 2022
Manipal, KA, India

EXPERIENCE

Rice University

Software 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 for GPU-accelerated inference, **reducing latency and boosting LLM Inference speed**.
- Set up CI for automated testing, **streamlining the development process 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%.
- Designed and integrated Shell Scripts that **slashed manual workload by 15%**.
- Monitored application logs, analyzing database discrepancies, **leading to 40% reduction in errors** and enhancing overall system stability.

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

Jan 2022 – Jun 2022

- Automated mapping of ESG files, **reducing manual effort by 70%**.
- Analyzed 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 Test Cases 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.
- Simulated 1000+ concurrent requests** using tools like Locust, performing detailed stress tests that **ensured 99.9% uptime and validated the systems scalability**.

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%**.

Brain Tumor Detection with EfficientNet-B0

Rice University

- Improved Pre-Trained models (EfficientNet-B0) using hyperparameter tuning, **achieving 97% test accuracy on a custom MRI dataset**.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, Go
Databases: Postgres, MS SQL Server, Oracle SQL DB, MongoDB
Libraries/Frameworks: Django, PyTorch, Spring Boot, JUnit, Mockito, ReactJS, NodeJS
DevOps and Tools: Kubernetes, Elasticsearch, Apache Spark, Git, Jenkins, CI/CD, Linux