JOSEPH MOHANTY

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EDUCATION

Rice University *Aug 2023 – Dec 2024*
M.S in Computer Science GPA: 3.73/4.0 *Houston, TX, USA*

Manipal Institute of Technology *Jul 2018 – Aug 2022*
B.Tech in Computer Science GPA: 3.45/4.0 *Manipal, KA, India*

EXPERIENCE

Rice University *Houston, TX, USA*
Software Development Intern (C++, CUDA, Python, GitHub Actions, LLMs) *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 *Pune, MH, India*
Software Engineer (Java, SpringBoot, Oracle SQL, Kafka, Shell Scripting) *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 *Mumbai, MH, India*
Product Engineering Intern (Java, JUnit, Mockito, SpringBoot, SonarQube) *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 i**mplementing 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% under dynamic workloads**.

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
Other:	Kubernetes, ElasticSearch, MapReduce, Apache Spark, Git, Jenkins, GitLab CI