JOSEPH MOHANTY

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EDUCATION

Rice University — **Houston, TX**
Master of Science, Computer Science, GPA: 3.73/4 — *Aug 2023 – Dec 2024*

Manipal Institute of Technology — **Manipal, India**
Bachelors in Technology, Computer Science Engineering, GPA: 8.44/10 — *Jul 2018 – Aug 2022*

SKILLS

Programming Languages: Python, C/C++, Java, Golang, JavaScript, PL/SQL
Databases: Microsoft SQL Server, Oracle SQL DB, PostgreSQL, MySQL, MongoDB
Libraries and Frameworks: Spring Boot, PyTorch, TensorFlow, Scikit-Learn, JUnit, Mockito, ReactJS, Redux, NodeJS, NextJS
Cloud and Big Data Technologies: AWS (EC2 and Lambda), Kubernetes, Docker, Elasticsearch, MapReduce, Apache Spark
DevOps and CI/CD: Git, GitHub, GitLab, Bitbucket, Jenkins, CircleCI, GitHub Actions, GitLab CI
Methodologies: Agile, Scrum

PROFESSIONAL EXPERIENCE

Rice University — **Houston, TX, USA**
Research Assistant (C++, CUDA, Python, YAML, GitHub Actions, LLMs) — *May 2024 - Present*

- Developed Ein-Summable (A system to help run ML tasks efficiently across multiple computers) under Prof. Chris Jermaine.
- Set up CI for automated testing, streamlining the development process by 50%.

Rice University — **Houston, TX, USA**
Teaching Assistant (Python, Microsoft SQL Server, Hadoop, PySpark, AWS, TensorFlow) — *Jan 2024 - Apr 2024*

- Facilitated students in solving doubts in SQL, Python Programming, AWS (EC2 and Lambda), and Apache Spark.
- Presented feedback about the course to instructors and fine-tuning assignments, increasing student engagement by 60%.

UBS — **Pune, MH, India**
Tech Engineer (Java, SpringBoot, Oracle SQL, Kafka, Shell Scripting, Unix) — *Jul 2022 - Jul 2023*

- Led bi-weekly code release activities; Implemented application enhancements and user stories; 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.

UBS — **Pune, MH, India**
Tech Engineering Intern (Python, Pandas, Matplotlib, NumPy, Oracle SQL, Unix) — *Jan 2022 - Jun 2022*

- Automated mapping of ESG file, reducing manual effort by 70%.
- Cleaned ESG data using Python, thus reducing processing time by 10%.
- Analysed downstream data, uncovering key trends and insights; improving deliverables quality by 40%, and increased client satisfaction by 25%.

NTT Data Payment Services — **Mumbai, MH, India**
Product Engineering Intern (Java, JUnit, Mockito, SpringBoot, Python, Pandas) — *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 checked the code coverage to be greater than 90% using SonarQube.

PROJECTS & PUBLICATIONS

Portfolio Website
(NextJS, JavaScript, HTML5, Tailwind CSS, NodeJS, Vercel, Git, ReactJS)

- Created using Next.js, featuring 4+ projects and detailed skill sections.

URL Shortener
Rice University (Go, MongoDB, Gorilla MUX, JavaScript, REST APIs)

- Developed a URL shortener service allowing users to shorten, manage, and retrieve URLs through a RESTful API.
- Optimized backend architecture, reducing latency by 35% and enabling efficient handling of 10,000+ simultaneous requests.

Brain Tumor Detection
Rice University (Python, PyTorch, NumPy, Pandas, Convolutional Neural Networks, Computer Vision)

- Designed a custom CNN, achieving 95% accuracy on a custom MRI dataset acquired from Kaggle and Tianjin Medical University.
- Improved Pre-Trained models (EfficientNet-B0) using hyperparameter tuning, reaching test accuracy of 97%.

Student Grievance Portal
Smart India Hackathon (Python, TensorFlow, Flask, LSTMs, Natural Language Process, NLTK)

- Formulated a sentiment analyzer to understand the priority of student grievances, achieving test accuracy of 87%.

Multimodal Sentiment Analysis of #MeToo Tweets Using Focal Loss
IEEE BigMM Conference (Python, BERT, NLP, PyTorch, NLTK)

- Implemented a Multi-modal Bi-Transformer (MMBT) model which combines both image and text features to produce an optimal prediction of a tweet's stan on the #MeToo campaign.