

Sreelekshmy Rengith

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Education

Master of Engineering in Software Engineering, 12/2024 | College Park, MD, United States
University of Maryland, A James Clark School of Engineering

Coursework: Software Engineering, System and Software Requirements, Software Design and Implementation, Data and Algorithms, Project Management, Analytics for Decision Support, Software Reverse Engineering, Cloud Security

Bachelor of Technology in Computer Science and Engineering, 05/2019 | Trivandrum, India
LBS Institute of Technology for Women

Coursework: Object Oriented Design and Programming, Principles of Database Design, Web Technologies, Operating Systems

Professional Experience

Software QA Engineer, Center for Advanced Transportation Technology Lab 📁 01/2024 – present | College Park, United States

- **Automated Data Validation with Python Scripts:** Improved data accuracy by **30%** and ensured high integrity in transportation analytics datasets by developing automated Python scripts for QA testing and data validation.
- **Automated Testing with Cypress in JavaScript:** Reduced manual QA testing time by **40%** and accelerated release cycles by **25%** by implementing Cypress automation frameworks, enhancing the efficiency of data-driven transportation solutions through streamlined software development processes.
- **API Testing and Validation:** Improved API reliability by **20%** and reduced integration issues through a comprehensive API testing strategy using Postman, which involved sending JSON requests to endpoints, validating response bodies, and troubleshooting discrepancies.
- **Comprehensive Software Test Development Planning, Execution, and Defect Tracking:** Executed **1,000+** test cases across **10** modules, reducing critical bugs by **20%** through continuous testing and defect tracking.
- **Regression Testing for Defect-Free Releases:** Performed thorough regression testing to verify that resolved defects did not introduce new bugs, contributing to a **20%** reduction in post-release issues.
- **Manual Testing for High-Quality Products:** Identified over **50** critical bugs in transportation platforms, leading to a **15%** boost in product performance through cross-team collaboration.
- **Product Requirements Review and Feedback Integration:** Participated in reviewing Product Requirements Documents and provided feedback to improve project scope and ensure comprehensive test coverage, resulting in a significant reduction in post-release issues.

Senior Systems Engineer - ETL Data Warehouse Testing, Infosys Limited 01/2022 – 04/2022 | Trivandrum, India

- **SQL Testing for Data Validation:** Designed test scripts to ensure **100%** data accuracy, aligning database tables with design specifications and improving overall data reliability.
- **Improving Testing Efficiency:** Introduced reusable test case templates in Informatica PowerCenter, which boosted testing efficiency by **20%**. Consistent daily validation checks led to a **30%** reduction in data integrity defects, streamlining the testing process.
- **ETL Process Optimization:** Coordinated with cross-functional teams in a Scrum environment, reducing data processing time by **20%** and boosting system performance.

Systems Engineer - ETL Data warehouse Testing, Infosys Limited 11/2019 – 12/2021 | Trivandrum, India

- **ETL Testing:** Performed comprehensive ETL testing by retrieving data from multiple sources, executing ETL procedures, and ensuring alignment with source-to-target mappings. Rigorous quality checks achieved a **98%** data accuracy rate, enhancing overall data reliability.
- **Functional and Regression Testing:** Identified over **50** data anomalies in ETL processes, enabling successful testing to validate fixes and maintain data consistency within the warehouse.
- **Data Migration:** Managed the smooth migration of data from **10** diverse client sources into a centralized warehouse, ensuring seamless integration and consistent data quality across all datasets.
- **Cross-Functional Collaboration:** Enabled agile communication within cross-functional teams to streamline data migration efforts and refine the SDLC framework. These initiatives led to a **15%** increase in workflow efficiency and enhanced business processes.

Projects

Comparative Analysis of Machine Learning Models for Rainfall Prediction in Australia 📁

- Developed and optimized Machine Learning models achieving **84%** accuracy in predicting rainfall using historical weather data.
- Applied data cleaning, imputation, and encoding methods to improve input quality, boosting overall model accuracy and reliability.
- Conducted In-Depth Exploratory Data Analysis to identify weather patterns through visualizations.

Optimizing Kubernetes Monitoring: Custom Grafana Dashboards & Prometheus Integration for Real-Time Insights 📁

- Enhanced Kubernetes monitoring by customizing **15+** Grafana dashboards, cutting manual setup time by **40%** and enabling real-time visibility.
- Optimized **20+** PromQL queries, improving insights into CPU, memory, pod restarts, and network traffic by **30%**.
- Resolved data visibility issues, fixing Prometheus scrape targets to increase metric accuracy from **12.5%** to **100%**, ensuring reliable performance data.

Technical Skills

Programming Languages: Python, Java

Databases: Oracle, MySQL, MongoDB

Web Development: HTML5, CSS, JavaScript, Bootstrap, Django

Quality Assurance: Cypress, Selenium, ETL Testing, API Testing, Mobile Testing

Tools: Postman, Informatica, Denodo, Jira, Git, Bitbucket, HP ALM

Cloud & DevOps: AWS, Docker, Kubernetes, Amazon EKS, Agile, Data Migration, Data Transformation, Defect Tracking

Certificates

- AWS Certified Cloud Practitioner 📁
- AWS Certified Solutions Architect - Associate 📁