

Rishitha Muddana

Software Engineer

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PROFESSIONAL EXPERIENCE

Software Engineer, Archkey

Jun 2025 – Present

- Designed and owned an end to end AI automation platform for document and invoice workflows, replacing manual operations with based backend services and ingestion, validation pipelines on Azure.
- Developed containerized Python extraction services using regex and vendor specific YAML, JSON configurations, deployed via Azure Container Apps for scheduled, serverless execution, integrated prompt engineered LLM workflows to improve extraction accuracy and confidence scoring.
- Built an LLM and vector search pipeline combining structured extraction, embedding based matching against vendor catalogs and contracts, and fallback inference for ambiguous cases, reducing manual exception handling.

Software Engineer - Regulatory and Compliance (Acquired First Republic Bank), J P Morgan Chase

Jul 2023 – Feb 2025 | San Francisco, CA

- Built a multi cloud ingestion and data profiling platform across AWS, Azure, GCP, and on prem systems, used by audit, compliance, security, and core business teams, leveraging Python based modular services, event driven orchestration, and built in data quality checks.
- Developed high throughput Kafka, Spark pipelines with fault tolerant workflows, schema versioning, and automated anomaly detection.
- Engineered Snowflake storage and metadata layers with lineage tracking, validation APIs, and governance automation for audit and compliance.
- Automated deployments with Jenkins, Kubernetes, and containerized Spark jobs, improving reliability and observability for billion record workloads.
- Delivered Snowflake powered Tableau dashboards with real time data quality, lineage, and anomaly insights for audit and risk teams.

Software Engineer - Regulatory and Compliance Technology, First Republic Bank

Feb 2022 – Jul 2023 | San Francisco, CA

- Modernized First Republic Bank's fraud and compliance ecosystem, AML, SAM, and KYC by replacing manual ETL and batch workflows with a scalable, distributed, data driven architecture enabling real time processing, configurable workflows, and regulatory compliance.
- Designed and scaled Python and Spark based data pipelines on Snowflake, unifying multi source customer and transaction data into Actimize's UDM using flexible, schema driven models that improved processing speed, reliability, governance, and audit readiness.
- Built Kafka driven microservices and REST APIs for real time fraud alerting and anomaly detection, and led the migration of a legacy Appian based compliance platform to a cloud native, API driven system that allowed KYC rules and case workflows to be configured without code changes.

Research Data Scientist, University of North Carolina at Charlotte

Sep 2021 – Feb 2022 | Charlotte, NC

- Conducted a cross-market analysis to measure how consumer data privacy regulations impact firm valuation, investor sentiment, and stock performance across multiple jurisdictions.
- Built an integrated international dataset and applied econometric models, causal inference techniques, and machine-learning pattern discovery to quantify regulatory effects on market behavior.

Founding Software Engineer, StraVis IT Solutions

May 2017 – Sep 2019 | Hyderabad, India

- Built a cloud native, multi tenant ERP automation platform on Google Cloud using Python, modernizing monolithic workflows into a scalable microservices architecture with Python services deployed on GKE and event driven orchestration via Pub/Sub and Cloud Composer.
- Implemented Python based BigQuery analytics pipelines and delivered user facing React dashboards enabling secure, cross service workflows and real time financial and operational KPIs across finance, supply chain, and enterprise operations.

EDUCATION

Master of Science in Data Science and Business Analytics, University of North Carolina at Charlotte

2020 – 2021 | Charlotte, US

Bachelor of Technology in Computer Science, Gandhi Institute of Technology and Management

2015 – 2019 | Hyderabad, India

SKILLS

PROGRAMMING/Frameworks

Python, Java, Typescript, Javascript, React, Golang, Flask, Django, Fast API

WEB SERVICES & APIs

RESTful APIs, SOAP APIs

DATABASE

MySQL, PostgreSQL, Redis, Vector DB, MongoDB

DEVOPS & CONTAINERIZATION

Docker, Kubernetes, Terraform, Jenkins, CI/CD, GitHub Actions

BIG DATA

Apache Spark, PySpark, Atlas, Kafka, Elastic Search

APPLICATION SECURITY & COMPLIANCE

SAST/SCA (SonarQube, Snyk), Secure APIs, RBAC, Secrets Management

CLOUD PLATFORMS

AWS, GCP, Azure, Databricks, Snowflake

AI & ML

LLM Prompting, LangChain, RAG, Anomaly Detection