# Surya Teja Koka

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## Software Engineer / Python Developer/ AWS Certified Developer Associate

**Data Pipeline and application Development | Data Engineering Expertise | Secure Design Architect**

A seasoned technologist with 3+ years of experience in Data Management, Security, and Application Development using Python. Demonstrated expertise in designing and implementing data handling solutions, data warehouse architectures, and scalable ETL pipelines, operating at a petabyte scale. Proven ability to lead cross-functional technical projects, enhance system security, and optimize cloud-based data services to drive efficiency and business insights.

## Core Competencies

• Data Platform Architecture • Cloud Computing • MLOPS Platform Architecture • ML & AI Implementation • Fraud Detection Systems • Big Data Analytics • Data Warehousing • Data Governance & Compliance (PCI DSS 4.0) • Clou Systems • Agile Methodology • Data Pipeline Design • ETL/ELT • Performance Optimization • Budgeting & Cost Optimization • Data Security & Privacy • Data Loss Prevention

## Professional Experience

**TuringIQ**                                                                                            APR 2024 – Present
**Software Development Engineer 2 (Python Development)**
Led initiatives in fraud modeling specifically for an RuPay Credit card product, focusing on data collection and building robust pipelines to analyze historical fraud incidents. Developed comprehensive data pipelines using DBT (Data Build Tool) [Used Dagster for the orchestration] to ensure efficient data transformation and management tailored to the needs of Credit and Debit card operations.

- Developed a comprehensive fraud mitigation system using AI/ML, significantly reducing fraudulent activities and enhancing system security. Worked with Apache Flink, Kubeflow, MLflow, and FastAPI for efficient model deployment and inference.
- Designed and maintained data processing workflows using Dagster and ETL pipelines, ensuring efficient data ingestion, transformation, and analysis. Integrated CI/CD practices using Jenkins and ArgoCD, improving deployment reliability.
- Built and optimized cloud-based data pipelines leveraging AWS services such as Lambda, S3, Glue, MSK, Kinesis, QuickSight, DMS, RDS, and DocDB, enhancing data processing and analytics capabilities.
- Implemented real-time data processing solutions, using Kubeflow Pipelines and Redis, enabling dynamic customer behavior analysis and improving fraud detection accuracy.
- Developed and deployed scalable APIs using FastAPI, ensuring secure and high-performance transaction processing of over 3 million transactions per day across DEV, UAT, and PROD environments.
- Conducted in-depth Proof of Concept (POC) evaluations for data engineering tools, optimizing data warehousing and analytics strategies.
- Automated and optimized ownership data distribution services, improving efficiency in data retrieval, transformation, and delivery while ensuring data integrity and accuracy.
- Participated in PCI DSS 4.0 compliance audits for transaction security and governance. Assisted in audits conducted by the Reserve Bank of India (RBI), preparing detailed reports on regulatory compliance.
- Maintained, refactored, and optimized existing application components, ensuring high code quality and adherence to best practices through regular code reviews and mentoring.
- Collaborated with cross-functional teams in a Scrum Agile environment, using Jira and Confluence to document progress, create test plans, and ensure efficient sprint execution.

**TuringIQ [Client: Concerto Card, USA]**                                                              Dec 2023 – APR 2024
**Software Development Engineer 1 (Python Development)**
Managed the operations for data within the ConcertoCard product, overseeing teams responsible for data management and analytics. This included building service code from scratch, specifically a static code and data validator for transactions, which not only ensured data integrity but also provided the necessary inputs for the predictive model used to analyze transactions. Additionally, I played a vital role in compliance efforts related to PCI DSS 3.2.1 and 4.0, serving as an internal auditor to ensure security standards were met effectively. This comprehensive approach not only enhanced operational efficiency but also contributed to maintaining the integrity and security of the ConcertoCard platform, supporting its growth in the competitive credit card partnership landscape.

• Worked extensively with Apache Airflow and DBT to store data efficiently and create visualizations for stakeholders, detailing metrics such as the number of cards added, inception details, transaction volumes, and other key performance indicators. Data Visualization Management: Managed Apache Airflow and DBT platforms to visualize critical data metrics such as card additions, inception details, transaction volumes, and other key performance indicators.

• Managed the storage of data in Amazon RDS (Relational Database Service) in the cloud, ensuring reliable access and management of transactional data, Setup scripts and automate the procedure of archiving storage to S3.

Utilized Fluentd to store security and SIEM logs into Amazon S3 buckets for auditing purposes, ensuring a robust logging mechanism for compliance and analysis

• Leveraged Amazon Quick Sight to visualize data insights and share comprehensive reports with stakeholders and directors, facilitating informed decision-making based on real-time analytics. Also, provided near real-time log ingestion, enabling the security team to analyze and detect anomalous patterns in user behavior promptly.

• Actively participated in PCI DSS 3.2.1 and 4.0 audits, ensuring compliance with security standards while also serving as an internal auditor to uphold stringent security protocols within the organization.

**CommScope Networks India Pvt Ltd** – **Bengaluru, India.**                                    June 2022 – Dec 2023
**Engineer 1 R & D**
Developed an intuitive user interface for the gNB-Utils tool, which has been utilized by over 1,000+ users at CommScope. This tool streamlines the deployment and health monitoring of gNB Pods and MeNB in Vanilla Kubernetes testbeds, showcasing my ability to create effective solutions that enhance operational efficiency. The UI facilitates cluster health checks, enabling seamless initiation, monitoring, and termination of gNB pods.

• Tool Development with Django and Shell Scripting: Developed the gNB-Utils tool using Django and Shell Scripting to streamline the deployment and health monitoring of gNB (Next Generation Node B) Pods and MeNB (Mobility Management Entity) in Vanilla Kubernetes testbeds.
• User Interface Design: Designed an intuitive user interface that facilitates cluster health checks, enhancing usability for team members involved in monitoring and managing Kubernetes environments.
• Health Monitoring Features: Implemented features for seamless initiation, monitoring, and termination of gNB pods, allowing for efficient management of network resources and improved operational efficiency.

**Samsung R & D Institute** – **Bengaluru, India.**                                    July 2021 – Mar 2022
**SDE Intern**
I applied React and Spring Boot to design and implement an interactive user interface for the VOC Dashboard at Samsung R&D. This dashboard provides comprehensive visualizations of project progress and team performance while incorporating functionalities like issue tracking and project management. Real-time updates for issue status changes were enabled using Twilio, enhancing team communication and responsiveness.

• Full-Stack Development: Applied React and Spring Boot to design and implement an interactive and visually appealing user interface for the VOC (Voice of Customer) Dashboard, an internal project aimed at enhancing project management and team collaboration.

• Comprehensive Dashboards: Developed comprehensive dashboards that visualize project progress and team performance metrics, providing stakeholders with clear insights into ongoing initiatives and resource allocation.

• Functionality Integration: Incorporated essential functionalities such as issue tracking, project management, and reporting, ensuring that users have access to all necessary tools for effective project oversight and team coordination.

## Technical Skills

**Big Data Technologies:** Spark, Kafka, Flink, Iceberg, Trino
**Programming Languages:** Python, Java, SQL
**Cloud Platforms:** Amazon Web Services (AWS) Google Cloud Platform(GCP)
**Configuration Management:** Terraform, AWS CloudFormation
**Analytics & Reporting Tools:** Apache Superset, Tableau, AWS QuickSight
**Databases:** MS SQL Server, PostgreSQL, Redshift, MySQL, DynamoDB, MongoDB, Doris
**Web Technologies:** Django, Spring, Spring Boot, Servlets, JSP, Jinja, HTML, CSS, JS
**Web Servers:** IIS, Apache Tomcat, Ngnix
**Other Tools:** Qualys (VMDR, Cloud Agent, Patch Management), Zscaler (DLP, ZIA, ZPA), Alert Logic, CrowdStrike, Sumo Logic, MDM's (Intune, Kandji), EDR, MDR, FIM (File Integrity Monitoring), Control Case (PCI 3.2.1), Jenkins, Docker, Kubernetes

## Education & Certifications

**Bachelor's in computer science (Data Science specialization)** – Koneru Lakshmaiah University, Vaddeswaram, India
AWS Certified Developer – Associate
Oracle Cloud Infrastructure Foundations 2021 Associate
Oracle Cloud Infrastructure Developer 2021 Certified Associate