Krishna Deep Yerramallu

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Education

Stevens Institute Of Technology — **Hoboken, New Jersey**
Masters of Science in Computer Science — *Expected Graduation: December 2025*

Jawaharlal Nehru Institute Of Technology — **Hyderabad, India**
Bachelor of Technology in Computer Science and Engineering — *Graduation: August 2022*

Experience

Data Engineer / Data Analyst — **August 2022 – August 2024**
Silicon Labs — *Hyderabad, Telangana*

- Developed a diverse set of Python and Go scripts to facilitate data collection through **RPA, ETL** and streamline **data orchestration** processes reducing human intervention by more than **75%**.
- Created **SQL scripts** and applied **advanced design patterns** to enhance data processing, movement, and retrieval, **achieving a 39% reduction in Azure egress costs** from 2023 to 2024 as part of data warehousing initiatives.
- Migrated legacy applications, data sources, and reports from on-premises environments to the cloud as part of a comprehensive **cloud migration project** involving **SQL, Kafka, Spark** etc.
- Collaborated closely with multiple departments to pinpoint essential key performance indicators **(KPIs)** and craft **visualization dashboards**, empowering teams to efficiently track and manage their performance using **Tableau, Power BI**.

Research Assistant - Deep Learning and Machine Learning — **January 2020 - January 2022**
Keshav Memorial Institute Of Technology — *Hyderabad, Telangana*

- Contributed to early-stage **Breast Cancer Detection** by developing Machine Learning and Deep Learning solutions for Estrogen - Progesterone Receptor Detection and Deep Learning Models for Tubule Segmentation in whole-slide images, aiding the Allred Scoring system.
- Developed API that are now actively used by diagnostic centers, assisting pathologists in tissue annotation and grading, **improving workflow efficiency by over 80%**.

Publications

- Deep Learning Model for Enhanced Nottingham Grading of Breast Cancer on Whole Slide Images (WSI) to Achieve Superior Diagnostic Precision and Efficiency. (Primary Focus: Tubule Segmentation) (Scopus, Under Review).

Technical Skills

Languages: Java, Python, C/C++, Go, Scala, SQL **Cloud Technologies:** Azure, AWS
Visualizations Technologies: Tableau, Power BI **Operating Systems:** Linux, Mac OS, Windows
Other Technologies: Docker, Kubernetes, Kafka, Spark, Git, GraphQL, Jenkins, Snowflake, CI/CD

Projects

Database Synchronization | *Python, Go, SQL, Azure, AWS, Cron, Apache Airflow* — **August 2024 - Present**

- Implemented a data synchronization and replication solution using Change Data Capture (CDC) to replicate cloud-hosted SQL tables (extendable to on-premise) to an on-premise SQL Server, reducing egress costs by 40% while maintaining data consistency.
- Leveraged SQL Server Agent Jobs, SQL Triggers, Cron Jobs for automated scheduling, Python / Go for manipulation and extraction, and optimized transfer by capturing only modified rows, resulting in a 25% reduction in data transfer volume.

Data Warehousing 4.0 | *Azure, PowerShell, Python, Tableau, Power BI* — **August 2022 - July 2024**

- Collaborated the design, modeling ,implementation, and management of a data warehousing solution using Azure SQL Database to store and analyze organizational data, while overseeing the migration, validation of existing data from on-premises and other cloud platforms to Azure SQL Data Warehouse for optimized performance and scalability.
- Designed and implemented the database architecture and advanced SQL design patterns for Azure Data Warehouse, optimizing data manipulation, storage, and query performance through tables, views, indexes, and stored procedures.
- Automated data pipelines and integrated analytics orchestration using JAMS Scheduler, Python and multithreading techniques, ensuring scalability, data integrity, and high availability for large-scale data processing.