

# KRISHNA DEEP YERRAMALLU

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## Education

### Stevens Institute Of Technology

*Masters of Science in Computer Science*

Hoboken, New Jersey

*Expected Graduation: August 2025*

### Jawaharlal Nehru Technological University

*Bachelor of Technology in Computer Science and Engineering*

Hyderabad, India

*Graduation: August 2022*

## Experience

### Data Analyst - Cloud & Platform

January 2022 – August 2024

*Silicon Labs*

*Hyderabad, India*

- Architected scalable data pipelines in **Azure Data Factory** using **Python and Go** for **RPA, ETL** and streamline **data orchestration**, reducing human intervention by more than **75%**.
- Optimized data processing and movement across layers in a **Medallion Architecture** using advanced **SQL** patterns like **Change Data Capture (CDC)**, reducing **Azure egress costs** by **40%** from 2023 to 2024.
- Migrated 200+ legacy applications, data sources, and reports to the cloud using **Python, SQL, Kafka, Spark**, and **Terraform**, as part of a **cloud migration project**, resulting in a **50% reduction in report generation time**.
- Implemented **CI/CD pipelines** using **Jenkins, Redgate, Azure Pipelines, Git** to automate **SQL database schema changes**, enabling smooth and **version-controlled deployments** across environments.
- Implemented **Terraform-based infrastructure-as-code (IaC)** to define and **version-control** provisioning of **databases, storage, and virtual machines** across environments, improving **infrastructure consistency**.
- Developed and **Dockerized** a system to **synchronize cloud and on-premise databases** using **CDC** and **row-level hashing**, enabling efficient incremental updates and **minimizing egress costs** through selective data transfer.
- Implemented **automated data quality checks** using **Python, SQL** and **cron jobs**, ensuring **99.9% data accuracy** between cloud and legacy systems and **improving stakeholder confidence** in cloud reporting systems.
- Developed and automated **Power BI and Tableau dashboards** to monitor **cloud migration progress, post-migration system performance**, and **data quality metrics** (nulls, schema drift, duplicates), enabling leadership to track KPIs in real-time, **reduce ad-hoc queries**, and **accelerate incident resolution**.

### Research Assistant - Machine Learning and Deep Learning

January 2020 - January 2022

*Keshav Memorial Institute Of Technology*

*Hyderabad, India*

- Developed an **AI-powered pathology platform** deployed in diagnostic centers, assisting pathologists in breast cancer detection and grading, improving **diagnostic accuracy by 97%**.
- Built a **web-based WSI analysis tool** adopted by clinical teams, reducing diagnostic **turnaround time by 30%** while maintaining **94% accuracy**.

## Technical Skills

**Languages:** Java, Python, C/C++, Go, SQL, Bash

**AWS Services:** EKS, EC2, RDS, IAM, Lambda, S3, ElasticCache, MSK

**Azure Services:** Data Factory, Virtual Machine, SQL Database, Functions, Blob Storage

**DevOps:** Docker, Kubernetes, Git, Jenkins, Terraform, CI/CD, Linux

**Data Processing:** Kafka, Spark, Snowflake, MySQL, PostgreSQL, Apache Airflow, Excel

**Machine Learning & AI:** Scikit-learn, TensorFlow, PyTorch, Hugging Face, LangChain, RAG, Transformers

**Visualization:** Tableau, PowerBI

## Publications & Achievements

- DCS.PathIMS: AI powered Digital Pathology Diagnostics Platform for Breast Cancer Histology Imaging Biomarker Discovery for Precision Oncology [link](#).
- Awarded the “**Most Innovative Hack**” at Stevens QuackHacks 2025.
- Received the “**Best Club Head of 2022**” award at KMIT, for hosting Sophos, National level coding competition.

## Academic Projects

**Code-Explainer** | *Python, AWS, LLMs, GitHub, RAG, Google GenAI API*

March 2025 - April 2025

- Leveraged **LLM-powered semantic analysis** and **RAG** to parse **complex code repositories** into high-level **architectural maps** and **code interaction patterns** for system-level understanding.
- Built knowledge graph embeddings using LLMs and RAG to model **fine-grained relationships between functions, classes, and modules**, enabling **interactive code exploration**.