# Krishna Deep Yerramallu

+1 (201) 630-1679 | kyerrama@stevens.edu | LinkedIn | Portfolio Website

## Education

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

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

## Experience

**Data Engineer / Analyst - Cloud** — **August 2022 – August 2024**
*Silicon Labs* — *Hyderabad, India*

- Architectured scalable data pipelines in **Azure Data Factory** using **Python scripts** for **RPA, ETL** and streamline **data orchestration**, **reducing human intervention by more than 75%**.
- Optimized data processing and retrieval using **Advanced SQL design patterns** like **Change Data Capture (CDC)** etc., **reducing Azure egress costs by 39%** from 2023 to 2024.
- Migrated 200+ legacy applications, data sources, and reports to the cloud using **Python**, **SQL**, **Kafka**, and **Spark**, as part of a **cloud migration project**, resulting in a **50% reduction in report generation time**.
- 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.

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

- Contributed to early-stage **Breast Cancer Detection** by developing **Machine Learning and Deep Learning solutions for Estrogen - Progesterone Receptor Detection** and **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%**.

## Technical Skills

**Certifications:** AWS Cloud Practitioner and Solutions Architect (In Progress)
**Languages:** Java, Python, C/C++, Go, Scala, SQL
**AWS Technologies:** EKS, EC2, RDS, IAM, Lambda, S3, ElasticCache, MSK
**Azure Technologies:** Data Factory, Virtual Machine, SQL Database, Functions, Blob Storage
**Other Technologies:** Kubernetes, Docker, Git, GraphQL, Jenkins, CI/CD, Kafka, Spark, Snowflake, Tableau, Linux

## Publications & Achievements

- 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).
- 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.

## Projects

**Code-Explainer** | *Python, LLMs, GitHub, RAG, Google GenAI API* — **March 2025 - April 2025**

- Leveraged **LLM-Powered Semantic Code Analysis** to **deconstruct GitHub repositories** into core **architectural blueprints**, **interaction maps**, and **modular abstractions** using **advanced NLP techniques**.
- Developed **Multimodal Tutorial Generation** with generative AI to produce **chapter-wise guides**, **concept diagrams**, and **visual learning paths** for code understanding.
- Built **Neural Code Graph Embeddings** to visualize **distributed code components, connection graphs** and **inter-module links** using **GNNs** and **attention-based models.**

**Design Win Success Prediction & Optimization** | *Azure, AWS, SQL, Python, Tableau* — **August 2022 - July 2024**

- Developed machine learning models using **XGBoost and Scikit-Learn**, predicting **Design Win** success based on **technical features, customer profile**, and historical sales trends, **increasing forecasting accuracy by 19%.**
- Optimized data cleaning and validation workflows, ensuring high-quality input for **predictive analytics, reducing missing and inconsistent records by 30%.**
- Built automated data pipelines integrating **SQL, Python, and cloud services (AWS/Azure)**, **reducing manual intervention in data processing by 75%**, enabling faster insights for sales and product teams.