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

Technical Skills

Certifications: AWS Cloud Practitioner and Solutions Architect (On-Going)
Languages: Java, Python, C/C++, Go, Scala, SQL **Cloud Technologies:** Azure, AWS
Visualization Technologies: Tableau, PowerBI **OS:** Linux, Ubuntu, CentOS, Red Hat, MacOS
Other Technologies: Kubernetes, Docker, Git, GraphQL, Jenkins, CI/CD, Kafka, Spark

Experience

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

- Developed and implemented a diverse set of **Python and Go scripts** as part of software development efforts 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 **Python, 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 **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%**.
- **Technologies used:** Pytorch, Tensorflow, Node, HistomicksTK, Open-seadragon, MLOps.

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).

Projects

Net-Sieve | *Python, PostgreSQL, Docker* — **November 2024 - December 2024**

- DNS server that **re-routes tracking and malicious domains** to a "black hole", **preventing devices from connecting to unwanted servers and enhancing security network wide** from a tailored block-list in postgres.
- Developed functionality to **resolve local devices IP and name mappings**, ensuring seamless **resolution for intranet and home networks**, improving device management and connectivity.
- Implemented a **web-based block-list for the server**, enabling easier management and **updates of the block-list through a user-friendly interface**, enhancing security and accessibility.

EnvKeyVault | *Vercel, React, Cryptography, Redis, Typescript, REST* — **November 2024 - January 2025**

- **Encrypt environment variables** directly in the browser using **AES-GCM** encryption and share. Only encrypted data are sent and stored in the **redis database**, ensuring sensitive variables such as API keys or credentials remain secure.
- Share sensitive data with specific limits on the number of reads (e.g., single-use or unlimited) and optional **Time-to-Live (TTL) for automatic deletion**, ensuring temporary and secure sharing.
- The solution includes an **API for securely sharing** and retrieving environment variables directly from the terminal using **CURL**, making it ideal for developers to **integrate into CI/CD pipelines or other automated workflows**.