AI Engineer/Data Engineer/Data Scientist

RAGA LAGUDUA

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EDUCATION

MS in Data Science – Rochester Institute of Technology – Rochester, NY, USA **Aug 2023 – May 2025 (Expected)**
3.93 GPA; Graduate Merit Scholarship Recipient

Core Courses: Software Construction (Java) | Data Science and Analytics | Database Design Implementation | Computational Statistics | Applied Data Science | Neural Networks | Natural Language Processing | Software Engineering for Data Science

BTech in Mechanical Engineering – Manipal Institute of Technology – Manipal, KA, India
Minor: Data Science **Aug 2017 - Jun 2021**

Core Courses: Engineering Mathematics (Calculus, Linear Algebra, Statistics and Probability)
Data Science Courses: Exploratory Data Analysis | R Programming | Data Cleansing | Machine Learning | Statistical Inference

WORK EXPERIENCE

Post Baccalaureate Research Fellow - Robert Bosch Centre for DS & AI, IIT-M, India **Jan 2022 – Jan 2023**
Project – Drug-drug interaction Prediction using Graph Neural Networks (GitHub)

- Developed a self-supervised autoencoder model to learn unique representations of drugs using their molecular structure and node features. Pretrained the model using 2 million unique drug structures.
- Designed a supervised Neural Network which will take the encoded representations of two drugs and predict the presence of interaction.

Operations Manager Intern – Amazon – MAA4, Chennai, India **Feb 2021 - Jul 2021**

- Achieved a 30% reduction in box cycle time by diagnosing inefficiencies and optimizing the packaging process.
- Tracked and analyzed quality metrics across the facility, overseeing the performance of 150+ associates by managing quality metrics and providing real – time feedback
- Managed Critical Pull Times (CPTs) to ensure on-time fulfillment and meet volume goals.

Engineering Intern – Maruti Suzuki, Gurgaon, India **May 2019 - Jul 2019**

- Inspected process sequence and workflow guidelines as part of quality assurance testing.
- Created Spec charts (comprehensive database of vehicle specification) for the modified car parts for the implementation of BS6.

PROJECTS

AI-Driven Multi-Drone Person Detection and Re-Identification (Capstone Project) | Python, PyTorch, timm, Blender, MATLAB, AWS SageMaker

- Processed and analyzed complex multi-perspective dataset (CARGO) to develop advanced person detection algorithms.
- Engineered a hybrid transformer-based AI framework for person re-identification using Vision Transformer (ViT) and View-Decoupled Transformer (VDT) architectures.
- Created a custom synthetic data generation pipeline using Blender and MATLAB to simulate diverse aerial and ground-level perspectives.

Image Classification using PyTorch (GitHub) | Python, Sentence-BERT, DBSCAN, Scikit-learn

- Implemented a convolutional neural network (CNN) using PyTorch to accurately classify a diverse range of images from the CIFAR-10 dataset which contains 60,000 images across 10 distinct categories.
- Designed a custom CNN architecture with convolutional, batch normalization, max pooling, dropout, and fully connected layers. Trained the model using Adam optimizer, achieving competitive validation and test accuracy.

Unsupervised Multi-Table Entity Matching (GitHub) | Python, PyTorch, NumPy, Matplotlib

- Developed adaptive entity embedding techniques using Sentence-BERT. Engineered a hierarchical merging algorithm with Approximate Nearest Neighbor Search (ANNS). Implemented density-based pruning using DBSCAN-like clustering. Reduced runtime by 85% compared to traditional clustering methods.

SKILLS

Machine Learning (Classifiers, Transformers, Neural Networks – GNN, RNN) | Statistical Analysis | Computer Vision | Natural Language Processing | Relational Databases | Predictive Modeling | Data Analysis | Web Scraping
Languages and Tools: SQL (SQL Server, MySQL, PostgreSQL) | Python (Pandas, NumPy, Scikit-learn, Matplotlib, PyTorch, Tensorflow) | Java | R | Microsoft Excel | Microsoft Power BI | Git | MATLAB | Hugging Face | AWS | PySpark