Lay Sheth

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EDUCATION

VIT Bhopal University **09/2022 – 05/2026**
B.Tech in Computer Science - 8.95 GPA *Bhopal, India*

TECHNICAL SKILLS

- **Languages:** Python (Advanced), Rust, TypeScript/JavaScript **Frameworks:** TensorFlow, PyTorch, Keras **Tools:** NumPy, Pandas, Polars, Scikit-learn, OpenCV, Git, MLFlow

WORK EXPERIENCE

ThePreProdCorp **07/2024 – 12/2024**
Machine Learning Engineering Intern *Bengaluru, India (Remote)*

- Spearheaded AutoML solutions for automated model selection and hyperparameter tuning, reducing model development time by 40%
- Mapped and deployed end-to-end data pipelines integrating streaming data, real-time visualization, and model deployment
- Developed RAG systems with open-source LLMs (Mistral, Llama), achieving 85% accuracy in context retrieval
- Collaborated with cross-functional teams to optimize data flow and enhance model serving architecture

PROJECTS

Advanced RAG Engine with Query Decomposition and GitHub Models Integration **06/2025**

- Architected production-ready RAG system using GitHub Models API, ChromaDB vector store, and HuggingFace embeddings, processing 1000+ document chunks with intelligent query decomposition achieving 90+ accuracy
- Engineered context-aware query decomposition pipeline with streaming responses and async processing, reducing complex query response time by 60% through automated sub-query generation and synthesis
- Constructed modular architecture with dependency injection patterns and abstract interfaces, implementing real-time streaming capabilities with metadata tracking and comprehensive error handling for enterprise deployment

High-Performance Web Scraping System: Python vs Rust Implementation **07/2024**

- Crafted dual web scrapers using Python (BeautifulSoup4, requests) and Rust (Tokio, reqwest) to extract data from 5,000+ Amazon product listings.
- Implemented concurrent scraping using Rust's async/await patterns with Tokio runtime, reducing server rejection rate by 70% through proper rate limiting and error handling
- Optimized CSV data pipeline with custom serialization in both Python and Rust, achieving 85% reduction in processing time while maintaining thread-safe writes

Distributed Real-time Image Classification System with Apache Kafka **08/2024**

- Established distributed image classification pipeline using Apache Kafka, TensorFlow, Keras, and Python, processing 5+ images/second with 87% accuracy
- Implemented concurrent message processing with Kafka producers, consumers and topic partitioning, reducing latency by 40% through parallel processing
- Defined CNN architecture in TensorFlow/Keras with 4 convolutional layers, integrating Python logging and Kafka metrics for monitoring and error handling

ACHIEVEMENTS

Smart India Hackathon(SIH) **12/2024**
National Level Hackathon Finalist *Team of 6*

- Pioneered cost-effective myoelectric prosthetic hand achieving 92% cost reduction (Rs 12,500) with companion mobile app processing EMG signals from dry electrodes, enabling real-time gesture recognition with 85% accuracy

PreProdCorp Buildathon **12/2024**
College Hackathon Winner *Team of 3*

- Pioneered an automated machine learning (AutoML) platform leveraging Streamlit and PyCaret, accelerating model training cycles by 75% and enabling citizen data scientists to build models.