

Katla Sathwik

✉ sathwikreddykatla@gmail.com

📍 Hyderabad, Telangana

🌐 linkedin.com/in/katlasathwik

☎ 9502192545


🔗 github.com/KatlaSathwik

🔗 https://www.sathwikreddy.online/

Career Objective

Aspiring **Data Scientist** and **Machine Learning Engineer** with hands-on experience building end-to-end AI systems across data analysis, NLP, computer vision, and LLM-based applications. Seeking an opportunity to apply data-driven thinking, machine learning, and scalable AI solutions to solve real-world problems and drive measurable business impact.

Professional Experience

03/2025 – 06/2025	AI/ML Intern <i>Brainwave Matrix (Virtual)</i>  <ul style="list-style-type: none">• Built an AI-powered fake news detection system using Python and NLP, achieving 90%+ classification accuracy.• Drove model development and optimization using Logistic Regression and LSTM for text classification.• Implemented TF-IDF and sentiment analysis to improve feature representation and prediction performance.• Deployed a Flask-based web application for real-time news verification using scikit-learn and TensorFlow.
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Skills

AI/ML & Deep Learning <ul style="list-style-type: none">• Machine Learning: Scikit-learn, XGBoost, Feature Engineering, EDA, Hyperparameter Tuning, Model Evaluation• Deep Learning: PyTorch, TensorFlow, Keras, CNNs, LSTMs, Transformers (BERT, GPT), Attention Mechanisms, Encoder-Decoder• NLP & LLMs: Hugging Face Transformers, LangChain, NLTK, spaCy, Prompt Engineering, Tokenization, Fine-tuning, Semantic Search• AI Agents: LangChain Agents, Tool Calling, Memory, Agent Orchestration	Programming Languages <p>Python, C, C++</p> Web Development & Cloud <ul style="list-style-type: none">• Frontend: HTML, CSS, JavaScript, React• Backend: Flask, Django, FastAPI, Node.js• Databases: MySQL, MongoDB, Firebase• DevOps/Cloud: Docker, Git, GitHub, API Development & Deployment
Data Science & Analytics <p>Pandas, NumPy, Excel, SQL, Statistical Analysis, Time-Series Analysis, Forecasting, Data Visualization (Matplotlib, Seaborn, Power BI)</p>	Tools & Platforms <p>VS Code, Jupyter Notebook, Postman, Linux, Git, GitHub, Docker</p>
Generative AI <p>Large Language Models (LLMs), Prompt Engineering, Retrieval-Augmented Generation (RAG), Embeddings</p>	
Computer Vision <p>OpenCV, YOLO, MediaPipe, Pose Estimation, Real-Time Image Processing, Data Augmentation</p>	

Projects

PlantDoc - AI Disease Detection for Farmers [↗](#)

Major Project | 12/2024 - 01/2025

- Developed an **AI-powered plant disease detection system** using leaf images, reducing crop loss by 25% through early diagnosis.
- Implemented **CNN-based deep learning models** achieving 95%+ classification accuracy across mobile and web platforms.
- Performed extensive data augmentation and preprocessing to improve model robustness in real-world field conditions.
- Deployed a lightweight, mobile-friendly application with real-time inference and integrated OpenCV pipelines using Python, TensorFlow/Keras, Flask, Flutter, and Docker.

CareerForge - AI-Powered Career Platform [↗](#)

Personal Project

- Designed and developed an **AI-driven career platform** that personalized roadmaps and automated job applications, improving user job search efficiency by 30%.
- Built a scalable **resume parser and job-matching system** using transformer-based models with **PyTorch and Hugging Face**.
- Implemented machine learning algorithms for dynamic skill assessment and real-time job matching, increasing relevant job recommendations by 25%.
- Containerized and deployed LLM pipelines using Docker, Flask, and MongoDB, while exploring ONNX and quantization for model optimization and edge deployment readiness.

Bargain Bot - E-commerce Negotiation AI [↗](#)

Personal Project

- Engineered an **AI-powered e-commerce negotiation chatbot** that automated price bargaining and increased user savings by 20%.
- Fine-tuned GPT-style models and implemented **agentic workflows using LangChain** to manage dynamic, multi-turn conversations.
- Built NLP pipelines using **Transformers and SpaCy** to interpret user intent and generate persuasive counteroffers.
- Designed adaptive negotiation strategies and deployed the system as a web and mobile application using Python, TensorFlow, React, Node.js, and Docker.

Sign Language Action Detection [↗](#)

Personal Project

- Developed a real-time **computer vision system to detect and classify sign language gestures**, improving accessibility for hearing-impaired users.
- Designed and trained a **CNN + LSTM pipeline** achieving 92%+ accuracy on video-based gesture datasets.
- Integrated pose estimation, skeletal tracking, and data augmentation techniques to improve robustness under diverse conditions.
- Deployed the model on a mobile application using a Flask backend and optimized inference through TensorFlow Lite, enabling offline and resource-efficient usage.

Data Analysis [↗](#)

Personal Project

- Analyzed **customer churn data** to identify key behavioral and pricing factors influencing retention risk.
- Conducted exploratory data analysis and feature engineering to uncover patterns across customer usage and tenure.
- Analyzed **electric vehicle charging data** to understand demand trends, peak usage periods, and temporal patterns.
- Built forecasting and analytical models to support churn reduction strategies and EV charging infrastructure planning.

NLP Book Recommendation System [↗](#)

Personal Project

- Built an **NLP-based book recommendation system** by analyzing book descriptions and user preferences.
- Implemented text preprocessing and feature extraction using **TF-IDF** and similarity metrics to generate personalized recommendations.
- Developed recommendation logic using **cosine similarity** to rank and suggest relevant books.
- Deployed the system using Python with an interactive interface for real-time book discovery.

Trainings / Certifications

08/2025 – 01/2026	Data Science <i>INTERNSHALA TRAININGS</i> <ul style="list-style-type: none">• Learned and applied Excel, SQL, and Power BI for data cleaning, analysis, and visualization.• Developed a strong foundation in statistics, Python, and machine learning for data-driven problem solving.• Practiced end-to-end data science workflows, including data preprocessing, exploratory analysis, and model building.
01/2025	Deep Learning Bootcamp - Attendee <i>Massachusetts Institute of Technology (MIT)</i> <ul style="list-style-type: none">• Attended intensive lectures and hands-on software labs covering CNNs, RNNs, GANs, LLMs, and Reinforcement Learning.• Built and experimented on projects including Music Generation, Facial Detection, and LLM fine-tuning.• Presented a final project applying advanced deep learning techniques to real-world problem statements.
01/2026	EFSET <i>English Proficiency Test</i> EF SET English Certificate — C2 Proficient (83/100), Jan 2026

Education Credentials

Vaagdevi Engineering College
BTech : Electronics and Communication Engineering
Dec 2021 - Jun 2025 | Warangal,India
CGPA : 7.5/10

Awards & Achievements

- Awarded **Silver Medal** in the **General Knowledge Olympiad** (2019).
- Awarded **Runner-up** at a **State-Level Technical Seminar** on “Emerging Trends in Artificial Intelligence” (2022).

Interests

- Startups & Entrepreneurship
- Cricket & Fitness
- Tech Reading