BHAGEERATHA REDDY KUPPIREDDY

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LinkedIn | GitHub | Portfolio

PROFILE

Computer Science graduate seeking opportunities as **AI Engineer, ML Engineer, Full-Stack Developer, Software Engineer, or Data Analyst**. Experienced in building production systems with **Python, TensorFlow, PyTorch, FastAPI, and React**.Proficient in end-to-end development from deep learning models to scalable web applications with cloud deployment expertise.

EDUCATION

VIT-AP University, Amaravati — Aug 2022 – May 2026
B.Tech in Computer Science and Engineering **CGPA: 8.87/10.0** — Andhra Pradesh, India
Relevant Coursework: Machine Learning, Deep Learning, Data Structures & Algorithms, Database Systems, Cloud Computing
Sri Chaitanya Junior College, Vijayawada | Intermediate (MPC) | **96.7%** — 2020 – 2022
Sri Chaitanya School, Proddatur | Secondary Education (10th) | **99.6%** — 2020

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, C++, SQL, R
ML/AI Frameworks: TensorFlow, PyTorch, Scikit-learn, XGBoost, LightGBM, Transformers, SHAP, Optuna, LIME
Web Technologies: FastAPI, Flask, Django, Next.js, React.js, Node.js, Express.js, TailwindCSS, REST APIs
Data Science & Analytics: Pandas, NumPy, Matplotlib, Seaborn, Excel, Power BI, Tableau, Hadoop, PySpark
NLP & Databases: NLTK, spaCy, BERT, BioBERT, MongoDB, MySQL, PostgreSQL, Firebase
Tools & Cloud: Docker, Git, GitHub, Linux (Ubuntu), Jupyter, Vercel, Netlify, Render

PROJECTS

AutoML-STUDIO — Production Full-Stack AutoML Platform | *TypeScript, Python, FastAPI, Next.js*
Live: automl-studio.netlify.app | *GitHub:* Link

- Engineered end-to-end AutoML platform with CSV/XLSX upload achieving **92% average accuracy** across 15+ test datasets using ensemble methods (XGBoost, LightGBM, Random Forest); implemented **SHAP explainability** for model interpretability and Optuna hyperparameter tuning reducing training time by **35%**
- Built FastAPI backend with async endpoints, SQLite database for user sessions, and RESTful API design; integrated automated feature engineering, missing value imputation, and categorical encoding pipelines
- Developed Next.js + React + TailwindCSS frontend with real-time visualizations (correlation heatmaps, feature importance plots, confusion matrices, ROC curves); automated EDA pipeline generating 20+ statistical insights including normality tests, outlier detection, and multicollinearity analysis
- Deployed on Netlify (frontend) + Render (backend) with CI/CD pipelines, handling **10MB+ file uploads** with streaming support, serving **500+ users** with 99%+ uptime and responsive performance across devices

Medical Chatbot — Healthcare NLP System | *Python, BioBERT, SBERT, Flask, NLP* — *GitHub:* Link

- Developed intelligent medical Q&A chatbot using **BioBERT embeddings and SBERT** for semantic similarity matching, achieving **89% answer relevance** on 500+ medical queries from curated knowledge base of 5,000+ verified medical entries
- Designed comprehensive NLP preprocessing pipeline with regex-based text cleaning, NLTK tokenization, WordNet lemmatization, and stopword removal; implemented TF-IDF vectorization with cosine similarity ranking improving query matching accuracy by **24%**
- Built Flask REST API with Redis caching layer reducing average response time from 1.2s to **340ms**; deployed with Gunicorn + Nginx handling 50+ concurrent users with **99.2% uptime** and implementing rate limiting for API stability

Text-to-Image Generation System (Capstone) | *Python, PyTorch, Diffusion Models, CLIP* — *GitHub:* Link

- Built multimodal AI system generating high-fidelity images from text prompts using **Stable Diffusion and CLIP embeddings**, achieving **CLIP score of 0.78** and **FID score of 24.3** demonstrating strong text-image alignment and visual quality
- Fine-tuned pretrained diffusion models on custom dataset of 10,000+ image-text pairs using LoRA adapters; implemented prompt engineering techniques and negative prompting strategies improving visual consistency by **31%** across 200+ test prompts
- Optimized inference pipeline with **mixed precision (FP16)** training and attention slicing mechanisms, reducing GPU memory usage by **45%** and generation time by **2.1x** while maintaining output quality; deployed on Gradio interface for interactive testing

AI-Driven Hospital Management Dashboard | *Python, Streamlit, Scikit-learn, Pandas* — *GitHub:* Link

- Created real-time hospital management system with **ML-based patient risk prediction** using Random Forest classifier achieving **86% accuracy**, enabling proactive resource allocation and early intervention for high-risk patients
- Designed interactive Streamlit dashboard with live data updates, patient admission trends, and automated statistical analysis; implemented data pipelines processing **500+ patient records daily** with anomaly detection algorithms identifying outliers in vital signs
- Integrated data visualization suite (charts, heatmaps, distribution plots) reducing administrative data entry time by **40%**; built CSV export functionality and filtering capabilities for healthcare staff to generate custom reports

CERTIFICATIONS

Oracle Cloud Infrastructure 2025 Generative AI Professional — Oracle Cloud (2025)
Deep Learning with TensorFlow — IBM SkillsBuild (2024)
Applied Data Science with Python (Level 2) — IBM SkillsBuild (2024)

ACHIEVEMENTS

Published Python Package: Released **aizenx-ai** on PyPI — Production-ready AI utilities library installable via `pip install aizenx-ai`, enabling developers to streamline ML workflows with pre-built modules for data preprocessing, model training, and deployment automation