Hitesh Reddy Buereddy

USA | +1 (929) 498-6356 | hiteshreddy25@outlook.com | Linkedin |Portfolio| Leetcode Profile | Github

---

SUMMARY

AI/ML Engineer with expertise in **PySpark, Airflow, Kafka, and AWS** for large-scale data pipelines processing **12TB+ weekly**. Proficient in **TensorFlow, PyTorch, Scikit-learn, CNN/RNN/LSTM, and NLP/LLMs** (LangChain, Hugging Face, spaCy). Skilled in **MLOps** with **MLflow, Docker, Kubernetes, CI/CD**, and experienced in **SQL, PostgreSQL, MongoDB**, and **Tableau/Power BI** for compliance and business insights.

PROFESSIONAL EXPERIENCE

AI/ML Engineer | Paychex | USA   *Jul 2025 – Current*

- Build **PySpark and Airflow pipelines** on **AWS (S3, RDS, Lambda, Kafka)** to process **12TB+ payroll and benefits data weekly**, ensuring compliance-ready reporting with faster delivery cycles.
- Train and deploy **ML models** in **TensorFlow, PyTorch, and Scikit-learn** to forecast employee attrition and detect payroll anomalies, enabling HR teams to prevent **9,000+ discrepancies annually**.
- Orchestrate **MLOps workflows** with **MLflow, Docker, Kubernetes, and CI/CD (Jenkins, GitHub Actions)**, integrating models into production and visualizing **150+ KPIs** in **Tableau and Power BI** for compliance audits.

AI / ML Engineer | Airbnb | India   *Aug 2021 – Sep 2023*

- Engineered **ETL pipelines** with **PySpark, Airflow, and Kafka** to process **50M+ booking and transaction records daily**, streamlining analytics workflows and cutting reporting latency by 18 staff hours per week.
- Developed and trained **predictive models** in **TensorFlow, PyTorch, and Scikit-learn** to forecast seasonal occupancy, enabling **revenue optimization strategies that generated $25M+ in booking value** across global regions.
- Designed **deep learning pipelines** (CNN, RNN, LSTM) for demand forecasting and customer trend analysis, boosting the accuracy of pricing models and improving revenue projections.
- Applied **NLP frameworks (spaCy, NLTK, Hugging Face)** to synthesize insights from **3M+ unstructured text reviews**, uncovering recurring service issues and driving **15K+ annual positive guest ratings**.
- Deployed and monitored ML models using **AWS Lambda, S3, RDS, and MLflow**, integrating real-time data feeds into production environments for automated decision-making.
- Optimized **PostgreSQL and MongoDB schemas** for large-scale analytical workloads, reducing **query execution time by 3.5 seconds** across **10TB+ historical booking and financial data**.
- Partnered with cross-functional teams to design **end-to-end ML workflows**, implementing **Docker, Kubernetes, and CI/CD pipelines (Jenkins, GitHub Actions)** and mentoring 4 junior analysts on scalable model deployment practices.

TECHNICAL SKILLS

- **Programming & Query Languages**: Python, SQL (PostgreSQL, MySQL), Java, C++
- **Machine Learning & AI**: Scikit-learn, TensorFlow, PyTorch, Keras, Deep Learning (CNN, RNN, LSTM), Natural Language Processing (spaCy, NLTK), Large Language Models (LangChain, Hugging Face, LangGraph)
- **Data Science & Analytics**: Pandas, NumPy, Matplotlib, Seaborn, Exploratory Data Analysis (EDA), Feature Engineering, Model Optimization, Tableau, Power BI
- **Big Data & Pipelines**: Apache Spark, PySpark, Airflow, Kafka, dbt, Data Wrangling, Data Modeling
- **Cloud & MLOps**: AWS (EC2, S3, RDS, DynamoDB, Lambda, CodePipeline), Docker(Docker Compose), Kubernetes, CI/CD (Jenkins, GitHub Actions), MLflow, Model Deployment & Monitoring
- **Databases**: MongoDB, Redis, PostgreSQL, MySQL
- **Testing & Automation**: Pytest, Unit Testing, Test Automation, Postman

---

EDUCATION

New Jersey Institute of Technology | USA   *Sep 2023 – May 2025*
Master of Science in Computer Science | GPA – (4.0/4.0)

Sreenidhi Institute of Science and Technology | IND   *Jul 2019 – Jun 2023*
Bachelor's degree in Computer Science | GPA – (8.64/10)

PROJECTS

AI Driven Negotiator for Customer Lending

- Built and deployed an LLM assistant (LLaMA 3.3) with multi-agent workflows, function calling, and advanced prompt engineering; improved reliability with DeepEval and CI-based evaluations.
- Scaled production deployment with acceptance criteria, ethical/performance testing, and containerization (FastAPI, PostgreSQL, Docker Compose).

TimeFlexTrade

- Engineered a hybrid time-series forecasting model combining LSTM and Transformer architectures to predict stock prices with 96% R² and low RMSE integrated rolling statistics and volatility indicators to enhance temporal context.
- Built an end-to-end ML pipeline for data ingestion, preprocessing, feature scaling, and model training, implemented model evaluation using walk-forward validation and deployed visualizations of prediction confidence intervals using Matplotlib.

Cardiopathie

- Designed a U-Net + spatial config network pipeline for cardiac CT segmentation, achieving 87.63% Dice score.
- Optimized with learning schedules, augmentation, patch-based training, and visualized results via heatmaps and distributions.

CERTIFICATIONS

- **AWS Associate Developer**, Neural Networks and Deep Learning, **Meta FullStack Developer**, AWS Academy ML Foundations, **AWS Academy Cloud Foundation, AWS Academy Cloud Architecting**