Vats Pratap Singh

vatspratapsingh@gmail.com | www.linkedin.com/in/vats-pratap-singh/ | github.com/vatspratapsingh

TECHNICAL SKILLS

Programming & Scripting: Python, C++, SQL

Machine Learning & AI: Scikit-learn, TensorFlow, Keras, XGBoost, Pandas, NumPy

Data Science & Visualization: Matplotlib, Seaborn, Jupyter Notebook

Databases: PostgreSQL, MySQL, MongoDB

DevOps & Tools: Git/GitHub, n8n, Jenkins, VS Code

Cloud Services: Amazon Web Services, Google Colab

EDUCATION

Vellore Institute of Technology, Bhopal   Aug 2022 – Aug 2026
B.Tech in Computer Science and Engineering (Cloud Computing and Automation)
CGPA: 8.40

Delhi Public School, Indore   March 2022
Senior Secondary (Grade XII), CBSE, Percentage: 74.6%

Delhi Public School, Indore   March 2020
High School (Grade X), CBSE, Percentage: 83.5%

PROJECTS

TrendSage: Automated Market Insights Pipeline   Jan 2025 – Mar 2025
- Built an **n8n-based data pipeline** with **Node.js & Supabase** for automated market/competitor analysis.
- Integrated **Twitter, Yahoo Finance, Google News APIs** and web scraping for multi-source data collection.
- Applied **OpenAI summarization & sentiment analysis**; delivered insights via **Slack/Telegram reports**.
- Automated workflows with daily **cron scheduling**, ensuring consistent data refresh and reporting.
- Developed dashboards for **real-time visualization** of trends and competitor activity.

NeuroDetect: AI-Powered Parkinson's Detection   Apr 2025 – Jun 2025
- Designed ML system using **SVM, KNN, Random Forest, Decision Trees** on speech biomarkers.
- Achieved **87% accuracy** (Kaggle dataset) and **81% accuracy** (Google dataset) with KNN.
- Performed extensive **feature engineering & model evaluation**; built real-time prediction pipeline.
- Addressed **class imbalance issues** in the larger dataset, improving model generalization.

TerraTech: Crop Price Forecasting   Mar 2024 – May 2024
- Developed Flask web app using **LSTM & XGBoost** for hybrid crop price forecasting.
- Built interactive UI for data upload, model selection, and **real-time predictions**.
- Deployed dashboards for trend detection, volatility analysis, and policy insights.
- Provided **actionable recommendations** for farmers, consumers, and policymakers.

CortexQA: Document-Grounded Q&A System   Jul 2025 – Aug 2025
- Developed a local **document-grounded Q&A application** that provides concise answers with source citations from uploaded PDFs.
- Implemented **semantic search** using **FAISS** with **SentenceTransformers (MiniLM-L6-v2)** for fast top-k retrieval.
- Built pipeline: PDF parsing (**pdfplumber**) → text chunking → embeddings → FAISS index → QA model (**RoBERTa-SQuAD2**).
- Designed **Streamlit UI** with file upload, configurable retrieval parameters, and answer + source display.
- Achieved **grounded answers** with reduced hallucination, fast retrieval, and lightweight local setup without external APIs.

CERTIFICATIONS

IBM DevOps Fundamentals [**IBM**]	Apr 2025
AWS Solution Architect - Associate Certificate [**Ethnus**]	Apr 2025
DevOps on AWS Certificate [**Coursera**]	Dec 2024
AWS Cloud Technical Essentials Certificate [**Coursera**]	Mar 2024
HTML, CSS, and JS for Web Developers Certificate [**Coursera**]	Jan 2024