Hansal Vilas Bhangale

9004127241 | bhangalehansal@gmail.com | www.linkedin.com/in/hansal-bhangale

Summary

I am a passionate Software Engineering student driven by the intersection of Data Science, AI, and financial modelling. With hands-on experience applying advanced technology to real-world challenges, I excel in optimizing complex systems and leveraging data-driven insights for strategic decision-making. My background in finance and technology, strengthened by my CFA Level 1 certification, enables me to bridge innovation with practicality. Continuously evolving, I embrace emerging technologies to create scalable, forward-thinking solutions that drive efficiency and progress.

Education

CFA Level 1 Passed **Apr 2025**

CFA Institute

University of Mumbai, CGPA-9.3/10(till 5th sem) **Jun 2022 – Jun 2026**

BTech in Computer Engineering Mumbai, Maharashtra

Complete Data Science, Machine Learning, DL, NLP Bootcamp **Feb 2025 - Ongoing**

Udemy (Krish Naik)

Experience

CybraneX Technologies and Consultancy **Jul 2023 – Sep 2023**

Quantum Developer

- Researched and implemented quantum algorithms (QAOA, VQE) to optimize long protein folding structures, reducing computational complexity.
- Collaborated with cross-functional teams to map protein energy landscapes into quantum Hamiltonians for efficient simulation on IBM Qiskit.
- Published internal documentation on algorithm benchmarking, highlighting trade-offs between circuit depth, qubit counts, and convergence rates.

CybraneX Technologies and Consultancy **Aug 2024 – Jan 2025**

Quantum Developer

- Designed a quantum-enhanced supply chain optimization system to streamline logistics from suppliers to retailers using Quantum Fourier Transform (QFT).
- Developed a QAOA-based path optimization algorithm for last-mile delivery, improving route efficiency and reducing fuel consumption across warehouse-retailer routes.
- Developed a user-friendly web portal enabling clients to input logistics data (supplier routes, inventory levels) and visualize quantum-optimized solutions, reducing manual processing time by.

Academic Projects

YouTube Financial Videos Sentiment Analysis

Engineered an end-to-end NLP using hugging face transformers pipeline to analyse sentiment in financial YouTube videos using BERT-based models (RoBERTa), for classifying bullish/bearish market sentiment. Integrated AssemblyAI API to automate transcription of 500+ hours of video content, reducing manual data extraction time by 65%.

US-Accidents Exploratory Data analysis

Constructed end-to-end exploratory data analysis (EDA) on a US traffic accidents dataset (10M+ records) using Python (Pandas, NumPy) to identify trends, hotspots, and risk factors. Performed data preprocessing (missing value imputation, outlier detection) and feature engineering to enhance dataset quality for downstream modelling. Created interactive visualizations (Matplotlib, Seaborn, Tableau) to map accident hotspots. Derived actionable insights, such as correlations between weather conditions (rain/fog).

House Prediction

Performed exploratory data analysis (EDA) on real estate datasets (10,000+ entries) using Python (Pandas, Seaborn) to identify key price drivers, uncovering correlations between location, square footage, and sale prices. Engineered 80+ features to enhance model performance. Performed feature selection using LASSO (L1 regularization) to identify 19 critical predictors (e.g., proximity to schools, lot size) from 80+ raw variables, reducing model complexity .

Predictive Asset Allocation System

Developed a financial intelligence platform leveraging machine learning and optimization techniques to predict user financial risk scores and recommend personalized investment portfolios. Integrated LSTM-based stock price forecasting, CVaR optimization, and an interactive Streamlit dashboard for real-time user engagement and portfolio visualization.

Skills

Programming Languages: C, C++, Java, Python
Data Science & Analysis: Data Analysis, Data Science, Data Visualization
Finance: Financial Analysis, Financial Modelling
Machine Learning: Machine Learning Algorithms
Quantum Computing: Qiskit, Quantum Computing, Quantum Algorithms
Databases: SQL
Python Libraries: Pandas, NumPy, Scipy, Sklearn, Tensorflow
Operating Systems: Linux
Office Tools: Microsoft Excel