Rajat M

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Summary

- **Quantitative Research / ML** candidate with strong Python fundamentals and hands-on experience in data-driven modeling.
- Built and evaluated **machine learning, deep learning, and quantitative trading** models using real-world datasets.
- Comfortable with **time-series data**, backtesting concepts, feature engineering, and performance metrics such as CAGR, Sharpe Ratio, and drawdown.
- Proficient in Python, Pandas, NumPy, scikit-learn, TensorFlow/Keras, with growing exposure to quantitative finance workflows.
- Motivated to work in research-oriented environments combining **ML, statistics, and financial markets**.

Skills

- **Programming:** Python, JavaScript
- **Quantitative & ML:** Time-series analysis, feature engineering, regression & classification, model evaluation, backtesting logic
- **ML / DL Libraries:** Pandas, NumPy, scikit-learn, TensorFlow, Keras
- **Deep Learning:** CNNs, transfer learning, model regularization
- **Data & Visualization:** Matplotlib, Jupyter Notebook
- **Tools:** Git, GitHub, Linux
- **Foundations:** Probability, Statistics, Linear Algebra (applied)

Projects

Quantitative Momentum Strategy Backtesting📈(Project Report) https://rajat16127.github.io/home/quant_1.html

Built a momentum-based equity strategy on BSE Sensex stocks using rolling out-of-sample validation, achieving 14.25% CAGR with Sharpe 0.91 over 10 years after transaction costs.

- **Key Concepts:** Time-series handling, look-ahead bias prevention, train/validation splits, strategy switching
- **Metrics:** CAGR, volatility, Sharpe ratio, max drawdown, turnover, yearly performance
- **Tech Stack:** Python, Pandas, NumPy, yfinance

Deep Learning Fashion Image Classification 👕🧢 (Project Report) https://rajat16127.github.io/home/image_dl.html

Built an image classification pipeline using CNNs and transfer learning (Xception) on ~3,800 images across 10 classes. Applied data augmentation and evaluated using accuracy and confusion matrices.

- **Tech Stack:** Python, TensorFlow, Keras
- **Focus:** Model training, generalization, evaluation

Home Loan Default Prediction Using ML 📊 (Project Report) https://rajat16127.github.io/home/loan_ml.html

Developed ML models to predict loan default risk on a dataset with 300k+ records and 120+ features. Performed EDA, feature engineering, and trained Logistic Regression and Random Forest models.

- **Tech Stack:** Python, Pandas, NumPy, scikit-learn
- **Focus:** Data preprocessing, model comparison, evaluation

Education

Bachelor of Engineering (Information Technology)

University of Mumbai

Relevant coursework: Data Structures, Algorithms, Machine Learning, Artificial Intelligence, Data Mining, Cloud Computing, Distributed Systems.

Additional Information

Languages: Fluent in English, Hindi, and Marathi