Aakruti Ghatole
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EXPERIENCE

Siemens Digital Industries Software
Associate Software Developer | Pune, India | July 2022 – August 2024

- Collaborated with Agile teams to analyze QA defect data, reducing defect tickets by 15% through improved prioritization and monitoring.
- Created sprint tracking dashboards using Polarion, enabling data-driven decision-making and workload balancing.
- Designed 200+ automated test cases, cutting manual QA efforts by 25% and improving release efficiency.
- Led sprint retrospectives to align development with quality goals, reducing feature delivery time by 12%.
- Refactored legacy C++ codebases using OOP and COM standards, improving modularity and reducing load times by 10%.

Technocolabs Software
Data Science Intern | Remote | June 2021 – July 2021

- Developed a sentiment-driven market prediction model using advanced NLP techniques and stock price preprocessing pipelines, achieving 85% classification accuracy for predicting short-term market movements.
- Designed and implemented an end-to-end ETL pipeline leveraging APIs and web scraping tools to automate the ingestion and cleaning of over 10,000 financial news articles, ensuring real-time, high-quality data inputs.
- Deployed the predictive model using Flask and Heroku, integrating a responsive web interface that allowed stakeholders to simulate and visualize market forecasting results in real time.
- Collaborated with data engineering teams to optimize API response times by 30%, improving system reliability and data availability for downstream analysis.

PROJECTS

Healthcare Management System – Boston, MA (Dec 2025)
SQL, Python, DBMS, SSMS, Power BI

- Designed SQL stored procedures and optimized database queries, streamlining patient records and staff scheduling, improving efficiency by 30%.
- Implemented column-level encryption to ensure HIPAA-compliant data privacy for sensitive patient records.
- Built Power BI dashboards to visualize KPIs, enhancing management decisions reducing wait times by 15%.
- Developed a Python-based GUI for seamless execution of CRUD, simplifying database access for administrators.

Mean Reversion Strategy on S&P 500 Stocks – Remote (March 2025)
Python, Risk Modeling, Pandas, NumPy

- Designed and implemented a sophisticated mean reversion trading strategy leveraging Bollinger Bands, Z-score thresholds, and market volatility indicators to identify high-probability entry and exit points within S&P 500 equities.
- Conducted extensive back testing using 10 years of historical stock price data, employing Pandas and NumPy to validate the robustness of the strategy and achieving a Sharpe Ratio of 1.8 with consistent annual outperformance.
- Developed dynamic volatility-adjusted position sizing algorithms and implemented strict stop-loss rules to mitigate downside risk, reducing maximum drawdown by 25% while preserving long-term portfolio returns.
- Demonstrated expertise in algorithmic trading, quantitative finance, and market simulation under real-world trading constraints, presenting key findings to a panel of finance professors and industry professionals.

EDUCATION

Northeastern University
M.S. in Information Systems | Boston, MA | Sept 2024 – Dec 2026
Relevant Courses: Database Architecture and Design(SQL), Financial Modelling in Data Science.
Involvement : **Senator,** Graduate Student Government (GSG) | Feb 2025 – Present

Cummins College of Engineering for Women
B.Tech in Mechanical Engineering | Pune, India | Aug 2018 – June 2022

SKILLS

Programming & Tools: Python, Java, SQL, Git, Heroku, Jupyter, BigQuery
Quantitative & Modeling: Statistical Modeling, Regression, Time Series Analysis, XGBoost, Scikit-learn
Data Analysis & Visualization: Pandas, NumPy, Tableau, Seaborn, Matplotlib
Finance & Problem Solving: Financial Data Analysis, Risk Modeling, Asset Allocation, Algorithms, OOPs