Nilrajsinh Vaghela

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EDUCATION

Georgia State University — Atlanta, GA
Bachelor of Science in Computer Science — *Aug. 2022 - May 2026*
- Relevant coursework: Machine Learning, Data Structures, Algorithms, Software Engineering, and Cloud Computing.

Google Advanced Data Analytics Professional Certificate — Online
Enrolled, Expected Completion: July 2025 — *January 2025 - Present*
- Developing expertise in data visualization, predictive modeling, and statistical analysis for actionable insights.

EXPERIENCE

Technical Assistant — April 2023 - Present
Georgia State University — *Atlanta, GA*
- Designed an Employee Management System using Python and Flask, reducing scheduling conflicts by 30%.
- Implemented an automated low-stock alert system for campus dining services, decreasing stockouts by 40%.
- Applied project management techniques to oversee end-to-end deployment and improve communication.

Student Leader — September 2022 - March 2023
Georgia State University — *Atlanta, GA*
- Managed a team of 12 using Agile principles, improving operational efficiency and customer satisfaction by 15%.
- Facilitated communication workshops to enhance verbal and written skills within the team.

Software Developer — July 2020 - May 2022
Ebrious Private Limited — *Gandhinagar, India*
- Led the development of 7+ mobile applications using Flutter, employing Agile methodologies and Jira for project tracking.
- Collaborated with clients to gather requirements and provide tailored solutions, boosting startup revenue by 30%.

RESEARCH

Deep Reinforcement Learning | *Python, BiLSTM, PPO, Technical Indicators, Quantitative Finance* — Apr 2025
- Designed and implemented a hybrid trading pipeline integrating BiLSTM for trade signal filtering and PPO agents for directional CE/PE decision-making in NIFTY index options.
- Engineered 33 technical features (EMA, RSI, MACD, ATR, Bollinger Bands, slope statistics) from 5 years of 5-minute OHLCV data for robust sequence modeling.
- Achieved 86% directional accuracy in out-of-sample 2023 tests, generating 342K net P&L with a Sharpe ratio of 1.72 under realistic brokerage and slippage assumptions.

PROJECTS

HedgeMine | *Python, LSTM,Technical Analysis, Payment API, PostgreSQL, AWS EC2* — December 2024 - Present
- Developed an Algo Trading Bot using Python, LSTM, HTML, CSS, AWS, WebSocket, and Machine Learning, achieving 70% accuracy in strategy through real-time and historical data integration via the ANGLE ONE API.
- Created a user-friendly website interface that enables the trading bot to automatically buy and sell stocks, enhancing user interaction and operational autonomy.

HedgeMine Mobile App | *Flutter, REST API, Python Flask, PostgreSQL, Firebase* — January 2025 – Present
- Built a Flutter app with Flask backend for real-time stock data, automated trading, user auth, and personalized dashboards.

SKILLS

- **Languages:** Python, SQL, JavaScript, HTML/CSS, Bash
- **Frameworks:** Flask, FastAPI, Django, Flutter
- **Libraries/Tools:** NumPy, Pandas, Scikit-learn, TensorFlow, Stable-Baselines3, Matplotlib, Seaborn, Docker, Git, Postman, WebSocket
- **Cloud & APIs:** AWS (EC2, Lambda, S3), Google Cloud, Firebase, Angel One API, Zerodha Kite API