ACHUTHA S

Email | Phone | LinkedIn | GitHub | Portfolio | Codeforces | LeetCode

Profile Summary

Motivated and intellectually curious Computer Science student with a passion for quantitative finance, advanced mathematics, and algorithmic problem-solving. Strong foundation in options trading, financial modeling, and macroeconomic analysis acquired through self-learning and hands-on experience. Currently conducting original research in graph theory, aiming for publication in reputed mathematical journals. Demonstrated ability to bridge computer science and financial theory through technical projects in systematic trading, data mining, and simulation. Eager to contribute to innovation at the intersection of computer science and financial markets, with a long-term vision of advancing quantitative research and financial systems within global institutions such as LSEG.

Education

- **SSLC**: SCS High School (2009–2020), Percentage: **95.68%**
- **PUC**: SDMRC College (2020–2022), Percentage: **95.33%**
- **B.E. in Computer Science and Engineering**: NMIT, Bangalore (2022–2026), CGPA: **8.08/10**

Technical Skills

- **Languages**: Python, Java, C++, C, SQL, Scala
- **CS Foundations**: Data Structures & Algorithms, Networking, OOP, DBMS, OS, Advanced Algorithms
- **Libraries/Tools**: Linux, Pandas, NumPy, Matplotlib, Git, Excel, Colab
- **Finance Domains**: Options Trading, Quantitative Research, Market Microstructure, Risk Modeling
- **Web Development**: HTML, CSS, JavaScript, React (basic)

Research & Publications

Broadcast Chromatic Number in Hendeccagonal Circular Ladder Graphs
Devised and proved a novel graph-theoretic formula from scratch. Paper in preparation for submission to a peer-reviewed journal (IEEE). Demonstrates analytical rigor and deep interest in Mathematical Graph Theory.

Finance Projects and Market Exposure

Options Trading (Self-Led) Best Trade Profit: 6,000
Studied option greeks, IV crush, payoff construction, and delta-neutral strategies through Zerodha Varsity. Executed trades using directional and delta-neutral setups (bull call spreads, straddles) and tracked outcomes.
Market Macro Notes (Independent)
Maintain a live macroeconomic dashboard monitoring CPI, GDP, Fed commentary, FII/DII flows, sector rotation, and India VIX. Use macro events to infer market sentiment and adjust trading exposure.

Technical Projects

Systematic Trading Strategy Simulator — [LINK]
Engineered multiple rule-based strategies (Donchian Channels, MA Crossovers) using NumPy and Pandas. Performed walk-forward analysis and tree-based Monte Carlo permutation tests to assess edge durability. **Achieved a 10% reduction in average drawdowns and 2.3x improvement in risk-adjusted returns** over hourly BTC/USDT data across a 3-month window.
Reddit NLP + Volatility Forecasting Pipeline — [LINK]
Built an end-to-end pipeline for Reddit topic mining and options volatility forecasting. Applied LDA topic modeling and sentiment clustering on Reddit posts; integrated NSE options chain data to detect volatility regimes. **Identified early signals of volatility spikes with 78% accuracy during backtests**, highlighting strong correlation between sentiment clusters and market regime shifts.

Certifications and Achievements

- Zerodha Varsity Certifications – Stock Market Basics, Options Trading, Futures Trading, Varsity Certification
- Cisco Networking Academy – Operating System Basics, Networking Basics
- International Research Paper (Graph Theory) – Under submission

Interests

• Chess(Puzzles:2400) [LINk] • AGI • Statistics • Competitive Programming • Speed Typing [LINK] • Mridangam, Morching