Garrepally Tejas

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE

B.Comp. in Computer Science
University Scholars Programme
NUS College Honours Programme
Stephen Riady Young Entrepreneur Scholar

ANDERSON JUNIOR COLLEGE

GCE 'A' Levels
Grad Dec. 2019 | Singapore
6 Distinctions in A Levels
Top Scorer Award

AWARDS

2023 | Hack & Roll Award Winner
2022 | Stephen Riady Young Entrepreneur Scholarship
2019 | Sinda Excellence Award
2019 | Edusave Award of Academic Achievement
2019 | Top Scorer Award
2017 | A*STAR Science Award

CLUBS & ACTIVITIES

NUS Investment Society (QF Dept.)
• Quantitative Developer (2022-23)

SKILLS

LANGUAGES

Python • Rust • C++ • Java • Javascript

DATA SCIENCE

NumPy • Pandas • Matplotlib
TensorFlow • Keras

FRAMEWORKS & STACKS

VueJS + Nuxt • MERN • Hasura (GraphQL) • Flask • FastAPI

BLOG

• Ergodicity
• Algorithms from First Principles: Minimax
• How I saved the Police Force hours of work daily using AI

EXPERIENCE

NESTED | Quant Developer Intern

March 2022 - July 2022 | Singapore
- Worked on profitable stock selection strategy with ensemble machine learning methods which outperformed the market's risk-adjusted returns over the past decade
- Optimized portfolio allocation with Hierarchical Risk Parity and Modified Kelly
- Reduced noise-to-signal ratio through PCA and unsupervised ML methods, minimising annual variance and max draw-down
- Conducted volatility regime classification with GARCH and Markov models

META & MAGIC | Fullstack Developer

April 2022 – July 2022 | Singapore
- Built an open-source alternative to collab.land - enabling verification of ownership of digital assets on the Ethereum blockchain to automatically manage the assignment of roles on a server for over 31,000 users
- Built and deployed the production and staging pipeline to shorten the systems development life cycle, as well as provide continuous integration (CI/CD) with EC2, Docker and Kubernetes
- Technologies: Node.js • Ethers.js • Moralis • Discord.js • MongoDB • Docker • Nginx • AWS EC2/ECR for CI/CD

NUSIQF | Quantitative Developer and Team Lead

Aug 2022 – Present
- Lead a team of 5 people on a research project on Volume Synchronized Probability of Informed trading (VPIN)
- Using bitcoin's ledger data, we built an on-chain aggregate risk metric that helps to provide actionable risk metrics and identify potential market tops and bottoms with good accuracy ($\pm$ 2 weeks).
- Self-built a full-stack end-to-end real-time analytics dashboard and GraphQL backend, with fully integrated CI/CD
- Technologies: Rust • Serde •

SELECTED PROJECTS

ENIGMA Github

- A high performance, multi-threaded, lock-free HFT systems monitoring GUI built in pure Rust.
- Implemented lock-free data structures to support high-throughput and low latency to maximize application performance and reduce lock contention/overhead.
- Technologies: Rust, gRPC, Tokio

SKIMLIT Github

- Implemented in Tensorflow based on a research paper, SkimLit is a NLP model that automatically classifies each sentence in an abstract, helping researchers to skim through literature more efficiently.
- Trained a series of 6 experiments (utilising character, token and positional embeddings) such as a TF-IDF Multinomial Naive Bayes classifier, convolutional neural networks and bidirectional LSTMs