Last Updated on 5th February 2023

Garrepally Tejas

https://gtejas.com | +65 9737 9146 | ttejasgarrepally@gmail.com | github.com/g-tejas

EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE

B.Comp. in Computer Science
University Scholars Programme
NUS College Honours Programme
Stephen Riady Young Entrepreneur Scholar
GPA: 4.69/5.0

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

Rust • Python • C++ • Java • Javascript

DATA SCIENCE

NumPy • Pandas • Matplotlib • TensorFlow • Keras

FRAMEWORKS & STACKS

VueJS + Nuxt • Tokio gRPC (Tonic) • 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 by over 30%.

NUSIQF | Quantitative Developer and Team Lead

Aug 2022 – Present

- Lead a team of 5 people on a research project on the VPIN metric as a leading indicator of liquidity-induced volatility and a new form of probability of informed trading
- Implemented the 'Flow toxicity in High-Frequency World' paper and applied the VPIN microstructure model to cryptocurrency markets.
- Performed parametric analysis and optimization using Monte-carlo and reduced FPR and accuracy to $10^{-}3$ magnitude.
- Technologies: Rust • Tokio (Tungstenite, Tonic) • Serde • Barter-data

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

SELECTED PROJECTS

ENIGMA Github

- A high performance, multi-threaded, lock-free HFT microstructure and trade monitoring GUI built in pure Rust.
- Implemented lock-free data structures to handle high-throughput tick data, minimizing network latency, lock contention and overhead.
- Designed and built a latency-free GUI by utilizing Tokio Tungstenite, delegating non-blocking web-socket tokio streams (L2 tick data) to worker threads, communicating via MPMC asynchronous, infinitely buffered channels.
- Technologies: Rust, gRPC, Tokio (Tungstenite, Tonic), Crossbeam, Barter-data, Serde

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