# SHREENAGA TEJAS CHIKOTI (US-CITIZEN)

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## EDUCATION

CARNEGIE MELLON UNIVERSITY, TEPPER SCHOOL OF BUSINESS Pittsburgh, PA/ USA
***Master of Science in Computational Finance – MSCF*** ***QPA: 3.89/4.33*** 12/25

- **Completed coursework:** options, investments, fixed income, and simulations for option pricing; supplemented by machine learning, stochastic calculus, and time series analysis.

INDIAN INSTITUTE OF TECHNOLOGY, KANPUR Kanpur, UP/ India
***Bachelor of Science in Mathematics*** ***GPA: 3.64/4.0*** 05/24

- Completed coursework in linear algebra, multi-variable calculus, time series analysis, probability and statistics, natural language processing, deep learning
- **Programming skills:** C, C++ (proficient), Python (proficient - NumPy, pandas, MATLAB, scikit-learn, PyTorch, TensorFlow)
- **Leadership skills:** Secured Third Position in IEEE ICRA DJI Robomaster AI Challenge as the only Indian team, bagged the Bronze medal in the Inter IIT Techmeet-12.0, Honorary mention in the AIITRA (All India IIT Robotics Association) Challenge

## EXPERIENCE

QUBE RESEARCH AND TECHNOLOGIES Mumbai, India
*Quantitative Research Intern* 05/23 – 07/23

- **Benchmark Strategy Design and Signal Enhancement:** Achieved a Sharpe Ratio of 1.3 (2017-2021) on the R1k universe by engineering a benchmark strategy using financial indicators and random forests. Optimized position sizing and signal accuracy through aggregation, scaling, and exponential smoothing.
- **Commodity Allocation Pipeline:** Utilized Hierarchical Clustering with SENT-BERT embeddings on revenue data to categorize sectors. Conducted EDA, identifying 560 companies spanning various sectors such as crude oil, petroleum, agriculture, fertilizers, aluminum, textiles, automotive, and steel.

LLOYDS BANK New York, USA
*Rates & FX Analyst Intern* 06/25 - 08/25

- **Auction Strategy Research:** Conducted an in-depth analysis of U.S. Treasury auction behavior to identify systematic trading opportunities around issuance cycles**.** Designed and backtested auction-driven fixed income trading strategies across U.S. Treasury Tenors incorporating ARIMA modelling and achieving a Sharpe Ratio of 1.06 post-2019 with robust performance.
- **Volatility Surface Construction:** Built a trading-facing Excel VBA tool to interpolate and calibrate FX option implied volatilities across arbitrary maturities, using macro-event tagging, customizable shifting levers, Integrated Malz model for smile construction and delta-based vol adjustment, enabling a trader to express market views.

## PROJECTS

ORDERBOOK SIMULATOR 04/24 – 05/24

- **Limit Orderbook Engine (C++):** Designed and implemented a modular C++ limit orderbook with full support for market, GTC, cancel, and modify orders using object-oriented design and thread-safe execution.
- **Optimized Matching & Testing Framework:** Leveraged efficient STL containers (e.g., map, unordered map) and encapsulated logic to optimize trade matching; developed a comprehensive unit testing suite ensuring correctness and scalability.

MULTILINGUAL DETECTION OF PERSUASION TECHNIQUES IN MEMES 11/23 – 03/24

- **Persuasion Detection in Multimodal Content:** Led a team of 2 in SemEval Task 4, analyzing memes and obtaining F1-scores of 0.60 and 0.67, on the sub-tasks 1 and 2; ranked (19/80) teams globally and submitted paper to NAACL Conference
- **Ensemble Approach for Meme Classification:** Designed a novel ensemble architecture integrating CLIP, CDP, and hyperbolic embeddings to effectively capture complex hierarchical structures in persuasive memes.

PRIOR CASE RETRIEVAL 02/23 - 04/23

- **Prior Case Retrieval System:** Developed a robust case retrieval system using BM25 and BERT-based re-ranking, processing over 3,400 queries against a 25,000+ case database. Achieved an F1-score of 0.413 on the IL-PCR corpus.
- **Legal Text Analysis:** Applied advanced NLP techniques (event extraction, dependency parsing, LegalBERT) to extract insights from legal texts. Optimized long document processing using KLI divergence and sliding window methods.