Param Kothari

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Education

The University of Chicago — **Chicago, IL**
Master of Science in Financial Mathematics (GPA: 3.89/4.0) — **Expected December 2024**
- Courses: C++, Python, HPC, Stochastic Calculus, Machine Learning, Risk, Options, Trading Strategies, PDEs

Indian Institute of Technology Guwahati — **Guwahati, India**
Bachelor of Technology in Biotechnology (Minor in Mathematics) (GPA: 3.75/4.0) — **July 2017 - May 2021**
- Courses: Probability & Statistics, Calculus, Data Structures & Algorithms, Machine Learning, Game Theory
- Awards: Institute Merit Scholarship for the best departmental academic performance (2019); top 5% in department

Skills

Computing: C++, Python (pandas, NumPy, scikit-learn), SQL, MATLAB, JavaScript, TypeScript, React, GraphQL
Knowledge: Machine Learning, Time Series, Algorithms, Data Analytics, Statistical Modeling, Software Development

Experience

Mizuho Securities — **New York City, NY**
Quantitative Researcher, Project Lab - University of Chicago — **Oct 2023 – Dec 2023; June 2024 - Ongoing**
- Used Monte Carlo Markov Chain simulation to scale rating transition matrices for xVA and risk quantification
- Currently categorizing credit default swap names using a jump model with hierarchical clustering to quantify xVA

DV Trading — **Chicago, IL**
Quantitative Researcher, Project Lab - University of Chicago — **January 2024 - June 2024**
- Developed an order book and a backtester using STL to process Market-by-Order data feed efficiently using C++
- Built timers and profilers using assembly level code to analyze and improve the performance of the same
- Researched about trading strategies and implemented the same for profitable signals

Sprinklr — **Gurgaon, India**
Product Engineer — **June 2021 – June 2023**
- Built a wide range of features in the live chat UI team for the Modern Care product suite using React framework and TypeScript programming language primarily; helped increase the number of clients using live chat to 40%
- Integrated a live stream application using the concepts of pushers, pollers, and authentication for 10+ clients

Goldman Sachs — **Bengaluru, India**
Summer Analyst, Securities Division — **May 2020 – June 2020**
- Developed an Index Support exclusive Launchpad to reduce the inefficiency of an email-based job alert system using Slang (Securities Language), an internal programming language used by the Securities division
- Devised a method which caches the individual data sources to reduce the delay in index value updation by 1-2 hours

Hanyang University — **Ansan-Si, South Korea**
Research Intern, Computational Vision & Fuzzy Systems Lab — **May 2019 – July 2019**
- Designed a method to build Secondary Information Granules around cluster prototypes using Fuzzy C-Means and defined new concepts of degree of similarity and a novel approach to partitioning the clusters
- Improved the efficiency for query-based searching by 34% on an average for large datasets

Eternus Solutions — **Pune, India**
Winter Intern — **December 2018**
- Created an mathematical exponential regression model computing the satisfaction index of clients' using Python; improved the accuracy of the sentiment analysis in terms of classification by more than 5%

Additional Information

Extracurricular: Secretary-General for IIT Guwahati Model United Nations (2019)
Competitive Programming: Candidate Master (1991) on Codeforces; top 400 globally in Google Kick Start contests
Achievements: Passed AIME (2017) which is a precursor to USAMO math olympiad; Winner of "Amex: Analyze This" analytics competition (2020); presented a poster on gene sequence alignment optimization at the SMB 2020 conference
Interests: Soccer, lawn tennis, drums, chess, board games, competitive programming (participant and teacher)