

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Cambridge, MA

Masters in Financial Mathematics, February 2026

2024 - Present

- Pursuing concentration in Financial Engineering and Capital Markets; current GPA: 5.0/5.0
- Anticipated Coursework: Options & Futures Markets, Financial Data Science, Optimization Methods

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

Mumbai, India

Bachelors of Technology in Computer Science and Engg, Minor in Statistics

2017 - 2021

- Graduated with honors with GPA of 9.34/10, received Institute Academic Excellence Award
- Thesis on Long Document Automatic Speech Recognition advised by Dr. Sunita Sarawagi and Dr. Preethi Jyothi

EXPERIENCE

ALPHAGREP SECURITIES PRIVATE LIMITED

Mumbai, India

High Frequency Trading (HFT) Firm with presence in global markets

Associate

2023 - 2024

- Enhanced strategies trading equities and its futures in NSE, India producing a revenue of \$2.5M annually with high sharpe; expanded on passive strategies on thick book securities to capture spread, doubling revenue
- Assembled a portfolio of passive strategies on Brazil Index futures; studied and rectified misbehaviour of model and alphas under various market scenarios; portfolio projected revenue of \$2.5M annually
- Researched alternate signal derivation for Cryptocurrency Futures; tuned passive strategies in alt-coins exploiting high volatility to maximise share of market volume, generating revenue of \$1M annually via rebates

Senior Analyst

2022 - 2023

- Led the AlphaVerse project team of 12 members to crowd source alphas. Established a scalable cloud based alpha testing platform while being cost effective; project collected 6000+ high quality MFT alphas
- Maintained market making strategies in cryptocurrency markets, ensuring highest tier of rebates firm-wide by maintaining market share and liquidity requirements as set by exchange
- Mentored two analysts in development of factor model based strategies, and was involved in hiring talent

Analyst

2021 - 2022

- Implemented latency sensitive index arbitrage strategies in C++ for National Stock Exchange(NSE), India; experimented with various execution formats to optimize entry and exit of hedged positions
- Developed an efficient end-to-end medium frequency trading platform, allowing traders to easily test and combine hundreds of alphas and deploy in live markets; later adapted into the AlphaVerse project

RESEARCH EXPERIENCE

SPEECH AND LANGUAGE TECHNOLOGY, CSE, IIT BOMBAY

Mumbai, India

CSALT Lab, Guide: Dr. Sunita Sarawagi, Dr. Preethi Jyothi

Context based Improvements on Long Document ASR

Autumn 2021

- Utilized trie based re-scoring on N-best lists for domain specific words and reduced overall WER by 1%
- Employed then state of art GLCLM, enhancing on first pass transcript produced by standard ASR

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT) CSAIL

Cambridge, MA

Barzilay Group, Guide: Darsh Shah, Dr. Regina Barzilay

Diverse Prompt Generation To Improve Product Descriptions

Summer 2020

- Employed data augmentation to generate diverse unanswered questions for a context for a thousands of products present in the Amazon Dataset; explored relevance metrics to find potentially unanswered questions
- Devised a clustering based information model to improve context for diverse prompt generation using LLMs

IBM RESEARCH AND CSALT, CSE, IIT BOMBAY

Mumbai, India

Joint Research of IBM with IIT Bombay, Guide: Dr. Preethi Jyothi, Dr. Pushpak Bhattacharya

Disfluency Correction Using Unsupervised Learning

Spring 2020

- Developed and augmented both LSTM and Transformer based architectures with domain embeddings to improve unsupervised style transfer models, best achieving a 79 BLEU score
- Published and presented research with title Disfluency Correction using Unsupervised and Semi-supervised Learning as joint first author to European Chapter of the Association for Computational Linguistics (EACL), 2021

ADDITIONAL INFORMATION

- Programming Languages Proficiency: Python (Numpy, Pandas, PyTorch), C/C++, SQL
- Chief Electrical Engineer for the Autonomous Underwater Vehicle (AUV) - IIT Bombay team from 2017-2019
- Successfully completed a 15-day Mountain Adventure Course conducted by JIM & WS in Jammu, India 2018