

Deepak Kumar Gouda

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Education

Master of Science

Computer Science - Machine Learning

Georgia Institute of Technology

Fall 2022 - Present

Bachelor of Technology

Mathematics and Computing, GPA 8.80/10.0

Indian Institute of Technology, Guwahati

July 2016-July 2020

Experience

• Kivi Capital

Quantitative Developer

India

June 2020 - May 2022

- Led the design and development of data snap and trade execution systems which capture upto **50 GB** data packets in **6 hours** ; the execution algorithm executes over 100 trades/day
- Modeled the price movement of financial assets to identify **13** trading patterns in 1 year
- Maintained a portfolio of trading strategies garnering **100%** returns in **4 months**
- *Key Technologies* - Socket Programming, Multi-Threaded Systems, C++, Pandas

Selected Projects

• Profiling BGP serial hijackers

Dr. Cecilia Testart, College of Computing

Georgia Tech

Fall 2022

- Initiating research on development of improved ensemble models to detect false BGP prefix broadcasts by malicious Autonomous Systems (AS)

• Video Deraining and Content Alignment

Dr. Arijit Sur, Dept of CSE

IIT, Guwahati

Fall 2019

- Surveyed state-of-the-art methods to generate synthetic rain patterns in video frames; developed an improved algorithm to de-rain videos, which obtained **9%** improvement in PSNR value

Publications

• Design and Validation of BlockEval, A Blockchain Simulator

Deepak Kumar Gouda, Shashwat Jolly & Dr. Kalpesh Kapoor

COMSNETS 2021

- Developed a simulation framework to generate network level data of large Blockchain topologies; proposed a universal validation pipeline to evaluate the correctness of generated data samples
- Simulated data of *BlockEval* was compared against actual Bitcoin network to estimate accuracy

• Construction of Bootstrap Confidence Intervals for Univariate Stock Price Signals

Shankhajyoti De, Arabin Kumar Dey & Deepak Kumar Gouda

Annals of Data Science, 2020

- Proposed a novel way to construct Bootstrap confidence intervals of signals predicted by LSTMs
- Developed a penalty function based on L_2 distance of mean series between original and bootstrap samples to calculate the optimal block length while bootstrapping

Relevant Coursework

GRADUATE Machine Learning, Advanced Computer Networks, Graduate Algorithms

UNDERGRADUATE Computer Vision, Parallel Computing, Generalized Linear Models, Matrix Computations, Computer Networks

Technical Skills

LANGUAGES Python, C/C++, MATLAB, C#, Bash

FRAMEWORKS PyTorch, Boost, Pandas, Numpy, Scipy, Pandas, Scikit, SimPy

Achievements & Extracurricular

- **InfosecIITG** : Founding member of the Information Security group, ranked **298**(in 2020) globally
- **Analyze This 2018** : Top **1%** among 2700+ teams in flagship hackathon by American Express
- **Defence Research and Development Organization, India** : Runners-up in national competition with over 100 participants for development of underwater surveillance systems *DRUSE 2018*
- **Microsoft Code.Fun.Do++ 2018** : Runners-up for developing a disaster management system
- **Joint Entrance Examination 2016**: Among top **0.1%** out of 1.2 million students in India