

Deepak Kumar Gouda

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Education

Bachelor of Technology

Mathematics and Computing, GPA **8.80/10.0**

Indian Institute of Technology, Guwahati

July 2020

Publications

Design and Validation of BlockEval, A Blockchain Simulator

COMSNETS 2021

Deepak Kumar Gouda, Shashwat Jolly & Dr. Kalpesh Kapoor

- 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

Construction of Confidence Intervals for a Univariate Stock Price Signal predicted through Long Short Term Memory Networks

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 LSTM models; developed a penalty function to calculate the optimal block length while bootstrapping

Experience

Kivi Capital LLC

Gurgaon, India

Quantitative Researcher

June 2020 - Present

- o Performed statistical research to grow and maintain a portfolio of trading strategies in forex segment; modelled portfolio performance for risk-management on historical data and analysed fill rate, slippage and liquidity evolution
- o Led the design and development of robust low latency systems to execute trade signals at Stock Exchange

Programming Projects

Video Deraining and Content Alignment

IIT Guwahati

Dr. Arijit Sur, Dept of CSE

Fall 2019

- o 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 in synthetic datasets

Disaster Prediction and Rescue Management

Microsoft

CodeFunDo++, National Hackathon

Fall 2018

- o Developed a prediction system to generate flood warnings based on the historic water level data of rivers and created a framework for end-to-end preparation of evacuation and management of flood rescue

Underwater Perception and Object Recognition

IIT Guwahati

4i Labs, Technical Board

Spring 2017

- o Developed the surveillance system in a remotely operated underwater vehicle; created custom dataset and implemented state-of-the-art algorithms to detect objects and map the underwater environment under low visibility

Relevant Coursework

MATHEMATICS	Generalized Linear Models, Statistical Analysis of Financial Data, Matrix Computations, Monte Carlo Simulation, Probability Theory, Scientific Computing
COMPUTER SCI.	Computer Vision, Parallel Computing, Computer Networks, Databases, Algorithms

Technical Skills

LANGUAGES	Python, C/C++, MATLAB, C#, Bash
FRAMEWORKS	Pandas, Numpy, Scipy, Pandas, Keras, Scikit, SimPy

Awards and Achievements

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

Event Organization and Talks

- o **Data Science** : conducted hackathons for *Hackerearth* and *Mathematics Dept*, registering **100+** teams
- o **Technothon** : organised aptitude test among school students, attracting over **50,000** participations