

# 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, 2021

- 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

## 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 **InterIIT Tech Meet 2019** : Represented IIT Guwahati in information and security event at IIT Roorkee
- 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
- o Presented several talks on state-of-the-art object recognition algorithms, Underwater Survey Systems and preparatory topics on Operating Systems and Computer Networks