

Sudip Sinha

Doctoral Student and Teaching Assistant in Mathematics

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Experience

Senior Business Analyst

🏢 **Mu Sigma, Innovation Labs**

📅 2011-12-15 to 2013-06-25

📍 Bangalore, IN

- Implemented machine learning algorithms (generalized linear model, exploratory data analysis, k-means clustering) for big data using R on Hadoop
- Training and support
 - Supported Allstate with their big data project
 - Was an organizational trainer for R, Hadoop, and related technologies

Business Trainee

🏢 **Oracle Financial Services**

📅 2011-07-04 to 2011-12-14

📍 Bangalore, IN

Worked on an in-house Banking Development Toolkit called "PRISM"

Education

Ph.D. in Mathematics

🏢 **Louisiana State University**

📅 2016-09 onwards

📍 Baton Rouge, LA, US

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- Specializing in stochastic analysis and mathematical finance
- Vice President of the LSU SIAM chapter
- Teaching assistant for Capstone Course, Probability Theory, Interest Theory, Linear Algebra, Calculus and Pre-calculus. The capstone course is a upper level undergraduate course in which the aim is to solve real-world problems. Previous projects include understanding kinesiology data using recurrence quantification analysis, building a dashboard for analyzing data for athletes, and analyzing 3D body shapes to get health metrics.

M.Sc. in Mathematical Modelling

🏢 **MathMods**

📅 2013-09 to 2015-10

📍 L'Aquila, IT & Hamburg, DE

% 3.5/4

- Thesis (numerical methods in mathematical finance): Studied the Singular Points method for pricing exotic path-dependent options under Prof. Fabio Antonelli and calculated the order of complexity for cliquet options
- Studied a generalization of the coupon collector's problem under Prof. Dr. Ingenuin Gasser, allowing the collectors to swap duplicate stickers
- Worked on "Decoding the Brain" (Kaggle) under Dr. Morteza Alamgir

B.E. in Chemical Engineering

🏢 **BITS, Pilani**

📅 2008-01 to 2011-12

📍 Goa, IN

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Thesis on computational fluid dynamic modeling of Savonius wind turbines

Projects

Math-to-Industry Boot Camp

🏢 **IMA @ UMN**

📅 2017-06-20 to 2017-07-28

📍 Minneapolis, MN, US

In the project "Machine Tool and Robot Calibration through Kinematic Analysis" under Dr. Thomas Grandine of Boeing, we proposed replacing Chebyshev polynomials with B-splines, and debugged an elusive bug in the existing code

Relevant coursework

Stochastic Analysis

Machine Learning

Optimization

Numerical Analysis

Differential Equations

Most Proud of



Receiving the GSSI scholarship
for excellence in academic performance during M.Sc.



Being promoted to Senior Business Analyst (by Mu Sigma)
within one year of joining



Two Spot Awards by Mu Sigma
Nov 2012: For GLM package
May 2012: individual contribution to Allstate's big data project



Gaumukh Tapovan Trek
A moderately difficult 150 km trek in the Himalayas (Jun 2012)

Skills

Domains mathematics

stochastic analysis data analysis

mathematical modeling

machine learning statistics

mathematical finance algorithms

Computing

Python R Java

C SQL MATLAB Git L^AT_EX

big data Hadoop MapReduce

Linux AMPL

Languages

English Bengali

Hindi Italian (A2) German (A1)

Miscellaneous

Hobbies

running trekking

reading roller-blading cycling

traveling classical guitar

Qualities

rigorous quick learner

persevering eye for detail logical

good interpersonal skills