Subhasish Basak Curriculum Vitae

Personal Information

Gender	Male
Date of Birth	December 21st, 1996
Language	Bengali (Native), English, Hindi
Github	https://github.com/Subhasishbasak
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Education

2018 – present **Chennai Mathematical Institute** *Chennai, Tamil Nadu*
M.Sc Data Science
CGPA **9.29/10**

2015 – 2018 **St. Xavier's College (Autonomous)** *kolkata, West Bengal*
B.Sc Statistics (Hons.)
CGPA **8.67/10**

2013 – 2015 **West Bengal Council of Higher Secondary Education**
XII Standard
Percentage **91.4%**

2003 – 2013 **West Bengal Board of Secondary Education**
X Standard
Percentage **92.7%**

Research & Project Experience

October 2019 – present **Laboratoire des signaux et systemés(L2S)**, *Research Project*
École CentraleSupelec, Université Paris- Saclay
Supervisor : Prof. Julien BECT & Prof. Emmanuel VAZQUEZ

- **Topic** : Numerical aspects of hyperparameter estimation using MLE in Gaussian Process Regression
- **Role** : The scope of this article is to explore different numerical issues arising out of such optimization techniques when performed across different software packages.

16 – 20 December 2019 **Indian Institute of Science Education and Research, IISER – Pune**
Indo-French Centre for Applied Mathematics **(IFCAM)**, *Winter school*

- **Topic** : Graphs and Random Process.
- **Role** : Attended mini courses on Branching random walks, Galton-Watson trees and random networks.

May – July 2019 **Laboratoire des signaux et systemés(L2S)**, *Summer internship*
École CentraleSupelec, Université Paris- Saclay – *Gif-sur-Yvette, France*
Supervisor : Prof. Emmanuel VAZQUEZ

- **Topic** : Reviewing scalability of Python toolboxes implementing Gaussian Process Regression.
- **Role** : Built a universal wrapper for Python toolboxes implementing Gaussian Process regression, to perform comparative performance tests using simulated test beds and reviewed the toolboxes over different features, for future developement.

3 – 14 December 2018 **Indian Institute of Science Education and Research, IISER – Kolkata**
Indo-French Centre for Applied Mathematics **(IFCAM)**, *Winter school*

- **Topic** : Stochastic Methods for uncertainty quantification and sensitivity analysis of complex models.
- **Role** : Learnt implementation of Sobol indices in sensitivity analysis and the Kriging approach of metamodelling in Geo-statistical domain using R .

January – July 2018 **St. Xavier's College (Autonomous), Kolkata.**
Undergraduate Dissertation.
Supervisor : Prof. Debjit SENGUPTA

- **Topic** : Time Series analysis of Gold price using R.
- **Role** : The aim was to develop a predictive model to forecast the average monthly gold price, using *Autoregressive process* model fitting and backtesting with R and MINITAB.

Relevant Coursework

Statistics **Descriptive Statistice I-III, Probability Theory I-III, Sampling theory, Statistical Inference I-III, Non-parametric Statistical Inference, Multivariate Analysis, Linear Statistical Models, Statistical Quality Control, Econometrics, Time Series Analysis, Demography, Macro & Micro Economics,**

Mathematics **Real analysis, Numerical Linear algebra, Algebra I-II, Calculus I-II (single and multivariate), Combinatorics.**

Data Science **Data mining & Machine Learning, Regression & Predictive analysis, Distributed Computing for Big Data, Big Data with HADOOP, Design & Analysis of Algorithms, Advanced Machine Learning (Deep & Reinforcement learning), Information retrieval, Text Analytics & Natural Language Processing, Bayesian Data Analysis, Computer vision : Image processing, Mathematical Finance**

Technical & Programming Skills

OS **Proficient in Linux and Windows operating systems**

Programming **Python, R, C++**

Softwares & Web **HTML, CSS, MINITAB, Apache Hadoop, Hive, Spark**

Other competencies **SQL, Git, Gitlab**, LaTeX, **Google Cloud Platform**

Academic Achievements

2018 Secured **All India Rank 12** in admission test MS-QMS program conducted by Indian Statistical Institute (ISI)

2018 Secured All **India Rank 75** in JAM 2018 in Mathematical Statistics (MS) paper conducted by Indian Institute of Technology Bombay (IIT-B)

2015 Selected for **INSPIRE** educational grant for Higher Secondary education.

References

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Dr. Emmanuel VAZQUEZ
Associate professor
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Dear Reader,

My experiences in the domain of analysis and experimenting with data did not begin with college. During my school days I was first introduced to the concept of commodity trading by my father, who is a bullion merchant by profession. Eventually I grew my interests into different trading practices in the stock & commodity market and realized the need of a scientific way of studying price charts and started practicing Technical analysis. That was the very first time I was associated with the real life data exploration and predictive analysis.

Later I joined St. Xavier's College, kolkata for a 3 years graduate course in Statistics (major) with Economics and Graduate Mathematics as ancillary subjects. There I got acquainted with the scientific way of exploring data and learnt the numerous insights of what we can achieve from real life data analysis. My all time favourite were Probability theory and the discipline of Statistical inference. I also worked on Time Series analysis of Gold Price as my graduate dissertation project. By the end of the course I decided to move on to the applied path of Statistics and that was Data Science. I got the opportunity to pursue my post graduation on Data Science from Chennai Mathematical Institute. The academic program had courses from both statistics and computer science domain which were intended to develop sound data analytic skills to meet modern industrial needs. During my post graduation studies, I spent the summer as a research intern at one of the best French laboratories (L2S) and in winters I attended some great workshops conducted by IFCAM. Both CMI and L2S gave me enormous exposure to today's Data Science and Machine Learning community and learnt a lot during this period.

My education at CMI has complimented my focus in Data analysis and exposed me to the tools and technologies used in today's Data science world. As a part of my coursework I have done several ML projects on Python, R in different domains (all hosted in my GitHub repositories). I am currently working on numerical aspects of Gaussian Process Regression and Bayesian Optimization. Some other domains that I love to explore include, Algorithmic trading, Technical analysis of financial market and Mathematical Finance.

I am highly dedicated to my education and my work, and try to see out any project to as close to perfection as is reasonably possible. I approach every problem with excitement, and thoroughly enjoy working in teams. I also strongly support in contributing to open-source projects for the development of the community.

I look forward to work with you.

Sincerely

Subhasish Basak