Koustav Chowdhury

Undergraduate Student in Statistics

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Koustav-Chowdhury73

Introduction

I am a third-year undergraduate student of Statistics at the Indian Statistical Institute, Kolkata, and a KVPY Fellow. My research interests include Machine Learning, Statistical Learning Theory, and Deep Learning. I also enjoy exploring topics in Mathematics, such as Graph Theory and Optimization Techniques. I am proficient in R, C, Python, LaTeX, MATLAB, MS Office, and G-Suite.

Education

2022–Present   **B.Stat. (Hons.)**, *Indian Statistical Institute*, Kolkata, India
Aggregate Percentage: 92.68% (till 5th semester)

2021–2022   **Higher Secondary Education**, *Jenkins School*, Cooch Behar, India
Percentage: 96.4%

Till 2020   **Primary Education**, *St. Mary's High School*, Cooch Behar, India
Class X Marks: 94%

Research Projects

2025   **Time Series Analysis of Sector-wise GDP in India using MOSPI Data**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Kiranmoy Das and Prof. Anil K. Ghosh
A comprehensive time series analysis on various sectors of GDP such as Agriculture, Fishing, etc. The analysis includes, trend and seasonality estimation, ARIMA Model fitting and forecasting

2025   **Studying the Structure of the Local Neighborhood of a Randomly Selected Vertex of a Large but Sparse Erdős-Rényi Binomial Random Graph**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Antar Bandyopadhyay
Statistically studying the local (d-depth) neighborhood of a randomly selected vertex of a large but sparse Erdős-Rényi random graph through simulations and theory available in the field.

2024-2025   **Robust Clustering using Median of Means Estimator**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Swagatam Das
Developing a clustering algorithm fused with the Median of Means estimator. Applying it to standard datasets and providing theoretical guarantees.

2024   **Demographic Analysis and Comparative Study of Maharashtra and Manipur using NFHS-5 dataset**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Kajori Banerjee
A comparative analysis to illuminate the socio-economic dynamics, health indicators, and lifestyle patterns that define the populations of these two diverse regions. Key metrics will include income and expenditure, education levels, and reproductive health. This study aims to provide insights into the disparities and developments that shape Maharashtra and Manipur, offering an understanding of India's multifaceted socio-economic landscape.

2023   **Reconstructing Signals from Noisy Data**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Probal Chaudhuri
Utilizing moving average estimators for denoising noisy signals to reconstruct the original signal.

2022   **Exploratory Data Analysis of Concrete Strength**, *Indian Statistical Institute*, Kolkata, India, Guide: Prof. Kiranmoy Das
Fitted a multivariate regression model, analyzed important/redundant variables, and optimized feature sets.

Internships and Experiences

2021	Attended **VIJYOSHI Camp** organized by IISc Bangalore.
2024	Data Analyst at Innover Capital Solutions Pvt Ltd.
2025	Attended **Winter School of Deep Learning** at Indian Statistical Institute, Kolkata
2025	Incoming Intern at **Big Data Summer Immersion at Yale** organized by Yale School of Public Health.

Achievements and Scholarships

2021–2022	KVPY Fellowship (SA AIR: 443; SX AIR: 437)
2021	Qualified NTSE Stage-I (Rank: 43) and JBNSTS with scholarship
2022	JEE Mains: 99.967 percentile (AIR: 369)
2022	JEE Advanced: AIR 808
2022	WBJEE: Rank 5
2022	ISI Entrance Test: Rank 17 with scholarship
Various	Madhava Contest State-Level Qualification (Scholarship and TIFR Camp)
Various	Prize money awarded for commendable marks in 1st, 3rd, and 4th semesters

Technical Skills

Programming	R, C, Python, MATLAB
Document Preparation	LaTeX, MS-Office, G-Suite
Mathematical Techniques	Statistical Modeling, Optimization, Graph Theory