



INDIAN INSTITUTE OF MANAGEMENT CALCUTTA



DATA SCIENCE FOR BUSINESS - ENABLING OBJECTIVE AND SUPERIOR MANAGERIAL DECISIONS



**Programme Directors: Prof. Prajamitra Bhuyan
& Prof. Sahadeb Sarkar**



Programme Dates: November 18 - 22, 2024



Programme Venue: MDC, IIM Calcutta

INTRODUCTION

A few years ago, The Economist published an article called “The world’s most valuable resource is no longer oil, but data”. Data Science is an emerging discipline to harness, store, and optimally process vast datasets from structured and unstructured sources using statistical modeling and machine learning techniques for decision making that creates business value in today’s context of a highly networked and digital society. Business leaders now understand the pressing need for data visualisation, computational algorithms, advanced predictive modeling, causality and Bayesian techniques for a rapid business transformation. These are becoming increasingly important tools for making strategic business decisions across industry verticals including retail, telecommunications, manufacturing, financial services, and the healthcare sector.

OBJECTIVES

The emphasis of this programme is to help managers gain a competitive edge in their decision-making by providing them with basic knowledge and understanding of some of the critical aspects of Data Science. The best utilization of cutting-edge analytics processes requires basic knowledge of advanced statistical methodology along with artificial intelligence (AI) tools and the ability to align the output with underlying domain knowledge. Top and middle level managers responsible for making strategic business decisions often may not possess all these skills. This programme aims to fill this gap aided by different data analytics techniques coupled with functional domain knowledge that results in actionable business insights for objective and hence superior decision making.



KEY TOPICS

- Data science for business decision making, its opportunities and challenges
- Making sense of business data: visualization & exploratory analysis
- Causality in decision making: analysing causal relationships among variables using linear and non-linear regression analysis
- Advance predictive & forecasting techniques
- Bayesian techniques for business decisions
- Categorical data analysis for managerial decisions
- Modeling unstructured data: challenges in handling complex high dimensional data
- Computational statistics using R and Python
- Machine learning algorithms to enable data-driven decision making
- Interpretable and explainable AI model
- Generative AI for business transformation: opportunities for strategic and practical business applications



PEDAGOGY

The programme includes a balanced mix of lectures, interactive discussions, hands-on data analysis sessions, and business case studies.



WHO MAY ATTEND

The programme is designed for middle and senior level managers interested in introducing statistical learning and AI-driven decision making, and intended to build expertise in data science for strategic business transformation.



PROGRAMME DIRECTORS

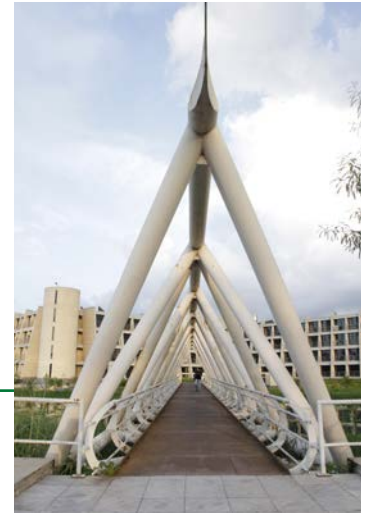
Prof. Prajamitra Bhuyan is a faculty member in the Operations Management Group of the institute. He had earlier been a faculty at the Queen Mary University of London and was engaged with the data-centric engineering programme at the Alan Turing Institute, London. He held a postdoctoral position at the Imperial College London and National Postdoctoral Fellowship in India after completing PhD degree in Statistics from the Indian Statistical Institute. He has more than ten years of industry experience as a Data Scientist in the Analytics sector, providing training and analytical solutions to global clients across industry verticals. His primary research interests lie broadly in statistical data science and methodology, motivated by real-life challenges arising from complex business processes, social science and public policy. Prof. Bhuyan can be contacted by email at: prajamitra.bhuyan@iimcal.ac.in.

Prof. Sahadeb Sarkar is a Professor of Operations Management at IIM Calcutta and has more than thirty four years of experience in teaching, research and training. He did his Ph.D. in Statistics from Iowa State University, USA, after completing B.Stat. and M.Stat. degrees from Indian Statistical Institute. Prior to joining IIM Calcutta, he worked for seven years as a faculty member at Oklahoma State University, USA. He also worked as a visiting Professor at University of Louisiana at Lafayette, USA for one year. He has been involved in executive education in business analytics in management areas such as Operations, HR, Marketing and Finance. His training and consulting assignments have been with various organisations such as Johnson and Johnson Medical, Baxter (India), Indian Railways, WBSEDCL, WBPDC, Bajaj Auto. His research interests have been in forecasting, robust inference, and quantitative applications in business problems including sports management. Prof. Sarkar can be contacted by email at: sahadeb@iimcal.ac.in.



PROGRAMME DETAILS

- Programme Commencement:** 9:00 AM on November 18, 2024
- Programme Conclusion:** 2:00 PM on November 22, 2024
- Accommodation:** For Residential participants, on single occupancy
 - **Check-in:** November 17, 2024 (6:00 PM onward)
 - **Check-out:** November 22, 2024 (2:00 PM)



PROGRAMME FEES

- Residential (R):** ₹ 1,40,000/- plus taxes and surcharges as applicable.
- Non-Residential (NR):** ₹ 1,30,000/- plus taxes and surcharges as applicable.

We would strongly encourage candidates to enroll as Residential participants, as the experience of an MDP is optimized in a full-immersion mode.

Discount on Programme fees:

A discount of 10% on the Programme fees can be availed by an organization if it nominates at least 4 participants for a particular MDP.



TERMS & CONDITIONS

- Participants would have to make their own travel arrangements.
- Accommodation at IIM Calcutta will be provided till 2:00 PM on the last day of the Programme. Participants who may wish to stay beyond this time will have to check with the CMDP Office for room availability, and associated charges. IIM Calcutta does not provide any family accommodation.
- Cancellation Policy: In case you/your nominated candidate(s) does(do) not attend the programme, 40% of the programme fees will be retained, as per policy.
- Executive Education Alumni: With effect from April 01, 2017, participants of IIM Calcutta's 'Open' MDPs who attend 20 days of learning through two or more Open MDPs will be eligible to apply for 'Executive Education Alumni of IIM Calcutta' status.



HOW TO APPLY

- You can apply/nominate your personnel by clicking on the “Apply Now” link corresponding to the particular MDP, as appearing on our online calendar available at: <https://iimcal.ac.in/mdp/mdp-calendar>
- Once the candidature(s) is (are) approved, the sponsoring authority or participant (in case of self-nomination) will be intimated over email along with a Proforma Invoice seeking programme fees in advance.
- Programme fees can be remitted online through Electronic Fund Transfer (NEFT/RTGS).
- Upon remitting the fees online, kindly intimate CMDP office with the UTRNo./relevant transaction details through email, so that we can connect your remittance to your nomination(s). Please note that confirmation of participation is subject to receipt of Programme fees by CMDP Office before commencement of the MDP.

IIM CALCUTTA’S ACCREDITATIONS AND RANKINGS

- Triple accreditations by AACSB (Association to Advance Collegiate Schools of Business), AMBA (Association of MBAs) & EQUIS.
- IIM Calcutta is the only B school in India to be a member of CEMS, a global alliance of leading business schools, multinational companies and NGOs
- IIM Calcutta’s MBA programme has been ranked 60th and MBA-Ex programme 76th in Financial Times Global rankings, 2023. In Domestic rankings, the Institute has secured 1st position in both BT-MDRA and Fortune India Best B-School Survey 2023



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For all other details on administrative matters please refer to the ‘Guidelines for Participants’ on our website or e-mail to program_mdp@iimcal.ac.in