Brij Disa Centre for Data Science and Artificial Intelligence

IIMA

INDIAN INSTITUTE of MANAGEMENT AHMEDABAD

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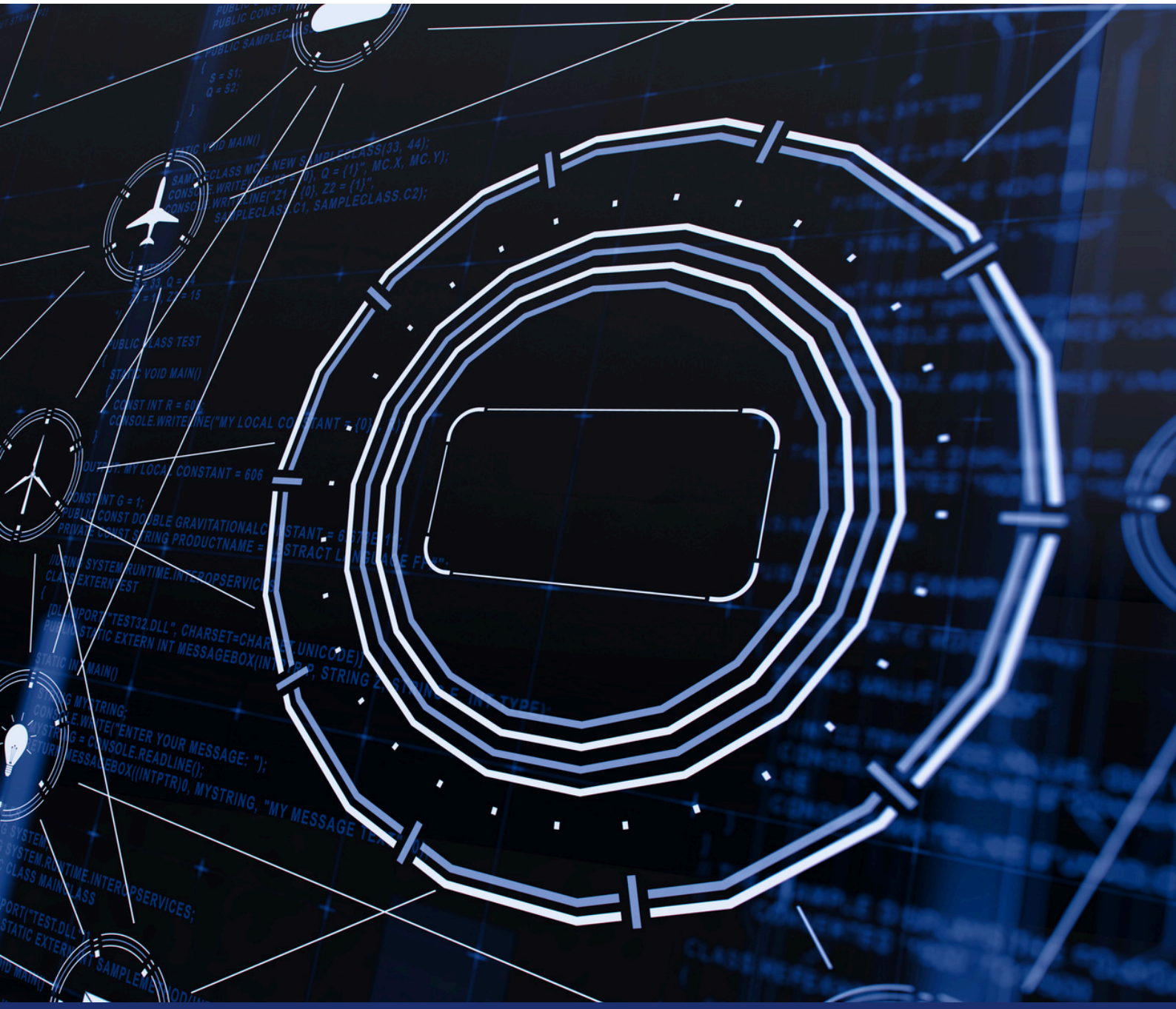
COMMUNIQUE

DECEMBER 2024



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Brij Disa Centre for Data Science and AI

Recent Events

Labour-force Perception about AI: A Study on Indian White-collar Workers

The report, Labour-force perception about AI - A Study on Indian White-collar Workers, by the Brij Disa Centre for Data Science and AI at IIM Ahmedabad in collaboration with the Wadhwani Foundation, is one of the earliest attempts focused on gauging the potential impact of AI on India's white-collar workforce. Artificial intelligence (AI) has emerged as the defining technology of our age, transforming industries, economies, and society. While AI holds significant promise for economic growth and innovation, its ramifications for the workforce are complex and multifaceted. India ranks among the top countries investing in AI-driven transformation. While the IIMA-BCG (2023) study highlighted AI as a strategic imperative for India, critical for maintaining and enhancing its competitiveness, this report emphasizes the importance for the Indian corporate sector and policymakers to understand how AI can not only sustain but also expand employment opportunities in an evolving economic landscape.

The report was unveiled at the IIMA campus by Professor Bharat Bhasker, Director of IIMA, alongside Prof. Ankur Sinha and Prof. Sriram Sankaranarayanan (Co-Chairs of the Brij Disa Centre for Data Science and Artificial Intelligence), Prof. Anindya Chakrabarti (Principal Investigator), Prof. Aditya C. Moses (Co-Author), Partner, Shree Prakash Kumar, CEO, Wadhwani Foundation and Amita Todkar (Co-Author). Mr. Deep Narayan Mukherjee, Co-Author, joined the event virtually.

Scan to read the report

The study specifically aimed to uncover the awareness and usage of AI among white-collar workers and their perception of its implications for the future of jobs and careers. Further, it assesses the workforce's readiness to adapt and embrace AI-driven transformations. For this purpose, the study used a mix methods approach, surveying more than 500 employees, analysing job vacancies and interviewing top level executives from key Indian firms.

550 Employees surveyed

Field survey with white collar employees in 5 cities

70,000 Job Vacancies analysed

In-depth study of job vacancies in India from public data sources

31 Executives interviewed

Detailed discussions with CXO and managers from diverse industries

The impact of AI technologies on the Indian white-collar workforce has already begun. 55% of employees have used AI tools at the workplace. Further, 48% of survey participants stated that their organisation had trained them to use AI tools. The survey participants anticipate a significant change in job profiles driven by AI. 68% of the employees expect AI to partially or fully automate their jobs in the next five years. 40% of responders perceive that their current skills will become redundant. At the same time, 63% expect AI to create new job roles over the next five years.

55%

of survey participants agreed to have used AI tools at the workplace.

48%

of survey participants stated that their organisation had trained them to use AI tools.

68%

of the employees expect AI to partially or fully automate their jobs in the next five years.

Insights

AI disruption has begun

The disruption by AI technologies in the Indian white-collar workforce is already underway. The current level of AI intervention is arguably higher than is generally perceived.

Employees taking up the AI challenge

A substantial portion of white-collar employees are taking the challenge head-on and are going for AI-related training on their own or taking up training facilitated by their organisation. An overwhelming majority believes AI improves their performance and that knowledge of AI is essential for their career advancement.

Believers in AI job automation slightly outnumber believers in AI job creation

68% of the employees expect AI to partially or fully automate their jobs in the next five years. 40% of responders perceive that their current skills will become redundant. At the same time, 63% expect AI to create new job roles over the next five years.

The current graduation/postgraduate setup is not optimal for the AI era

The awareness and adoption of AI tools and AI training are low among recent graduates and entry-level workers (less than five years of experience). This may indicate a gap in their current education and training, which organisations can address through training and upskilling programs.

Uneven AI adoption across industries

Education, IT, manufacturing, and healthcare are more actively training and exposing employees to AI. Retail and trade, and infrastructure are laggards in this aspect. Public administration is well informed and tends to expose its employees to AI. A surprising finding is that the finance and insurance industry is not among the top industries in training and exposing their employees to AI.

India Management Research Conference (IMRC 2024)

Track 10: Brij Disa Centre for Data Science and Artificial Intelligence

The Brij Disa Centre for Data Science and Artificial Intelligence track at the India Management Research Conference (IMRC) 2024 showcased diverse applications and innovations in AI and data science through keynote sessions, workshops, and oral presentations.

Day 1: December 7, 2024

The track began with a keynote session by Prof. Samrat Gupta, Associate Professor in the Information Systems area, on Social Network Analysis and Applications. Prof. Gupta provided an in-depth overview of the characteristics and properties of social networks, tracing their evolution from historical origins to contemporary digital platforms.


Prof. Samrat Gupta

The day also included oral presentations that explored topics such as leveraging artificial Intelligence to navigate millennials' behavioral finance biases in investment decision-making, Artificial Intelligence in stock market forecasting, Spatio-Temporal Analysis of large house price data from Greater London and enhancing AI financial advice.

The presentations illustrated the versatility of data science and AI in addressing real-world challenges.

Day 2: December 8, 2024

The second day featured additional sessions of oral presentations that delved into topics such as: Smashing the Silicon Ceiling: Stronger IPR and Female Participation in Chinese AI Patenting, Proximity-based approximation algorithms for integer bilevel programs, Cooperative Adoption of Supply Chain Traceability and many more. These sessions highlighted the broad impact of AI and data science in the social sector.

Day 3: December 9, 2024

The final day included a workshop led by Prof. Sumit Kunnumkal, Professor of Operations Management at the Indian School of Business, on Discrete Choice Models, Assortment Optimization, and Pricing. This session offered a detailed exploration of consumer choice models and their applications in business strategy.

Prof. Sumit Kunnumkal

Oral presentations on the final day covered a wide array of topics, including Artificial Intelligence in the Recruitment Process as an e-HRM Practice, Revolutionizing Health Diagnostics: The Impact of AI and Machine Learning on Precision Medicine and more. These sessions underscored the transformative potential of AI in both academic and industrial domains.

The track concluded with reflections on the conference and the announcement of the Best Paper Awards, marking the end of an engaging and insightful series of sessions.

The CDSA track at IMRC 2024 served as a platform for fostering knowledge exchange and collaboration, emphasizing the critical role of data science and artificial intelligence in driving innovation and addressing complex challenges.

WHAT IS BEING LITIGATED THE MOST?

The Big Data Perspective on Contract Law

CHANDNI GOEL

Chandni Goel is a Research Associate with the Brij Disa Centre for Data Science and AI. She has worked as a corporate lawyer with leading law firms in India and the U.S. She holds an LL.M. in Corporate Laws from the New York University School of Law and a B.A. LL.B. (Hons.) from the NALSAR University of Law.

Our legal tradition trains lawyers as close readers. Practitioners as well as legal scholars routinely scrutinize cases to distill relevant facts and indentify key holdings. This fundamental approach, essential for legal study and practice, has a drawback; it fails at times to present the big picture of the development of law. Academics, policymakers as well as lawyers are increasingly becoming keenly interested in high-level trends, such as the role of big data in democratic ordering and participation. [1] As a result, overarching shifts in public law have been well documented and analyzed. [2] Yet, far less attention has been paid to the development of private law.

Scholars regularly remark that contract interpretation remains the most important source of commercial litigation, yet data regarding contract interpretation deployed by courts including hard data to support this very conventional wisdom remains suprisingly scant. Given the robust discussion in contract law scholarship about the best interpretive practices, today we have a dearth of empirical data concerning broad trends in contract interpretation. [3] Contract scholars, for example, have debated whether business-to-business transactions ought to be regarded as the defining "core" of contract law, and relatedly, what interpretive approach best furthers the goals of particular types of contracts. However, no study has yet examined which types of transactions actually get litigated the most in practice and which contract types constitute the subject of the majority of caselaw. [4]

A new methodology, called **macro contract research**, offers a big data perspective as a complement to close reading of cases and in doing so, it offers a new tool to enrich our current understanding of the development of private law.

Under private common law, "canons" or familiar rules of thumb direct courts as they go through the meaning of an agreement. Taking for example, the canon of contra proferentum - it is a common law rule that ambiguities in a contract should be construed against the drafting party. [5] A close reading of case law may reveal to us nuances like where this canon is applied and where the application is limited due unavailability of extrinsic evidence - that is, evidence beyond the written agreement to resolve the ambiguity.

However, this does not provide a sense of the broader trends in the development of private law. As in, how often does this principle of contra proferentem play a role in litigation? Is it a rarity or sufficiently common? If courts regularly invoke this canon, in what contexts do they tend to do so? And, if this doctrine is developed in one contractual context, is it applied predictably in that context alone or also in other contexts? Is the tendency of courts to invoke and develop the common law around this canon - or any other canons – increasing or decreasing over time? Many questions remain open and macro contract research [6] has the potential to answer these questions.

Contract law rests on the premise that private ordering is the best way for parties to actualize their preferences. [7] In one recent big-data study under taken specifically with respect to California courts, a rough heuristic was developed using party names in cases to identify transactional context in a large-scale analysis. Using Harvard Law School's Caselaw Access Project database ("CAP"), this study employed natural language processing ("NLP"), machine learning, and statistical tools to analyze the likelihood that courts invoke intent, textual or substantive canons. [8] Among other results, it was remarkably insightful to find that 'individuals' comprised the majority of the parties to litigation in California courts. The data further suggested that legal doctrine under common law is being developed more in cases inolving disputes between business organisation entities and not in individual party disputes. Furthermore, it revealed that the courts are increasingly invoking textual canons – a focus by courts on the words in the text of an agreement rather than on the context or other substantive goals.

Noting such contributions, it is important to discuss here that while big data may be used as a tool to inform judgement, it cannot decide questions of meaning, justice or equity – though it risks doing so under the guise of objectivity and evidence. Law is always theory-laden, values based and built on compromise. Big data cannot discern the indeterminate boundaries of legal principles or update its frame in accordance with evolving conditions. For instance, in common law certain terms operate distinctly in the context of contracts, on the one hand, and that of statutes, on the other.

The term "shall" is ordinarily interpreted as mandatory in a statute, however it is not so interpreted if the scope of enactment, or the consequences to flow from such construction would not so demand.

In a commercial contract however, it serves an important purpose as it signals an obligation. It is synonymous with the phrase “has a duty to.” In a review of cases litigating the significance of the term, another study found that questions involving the meaning of the word “shall” almost entirely involved statutory interpretation. [9] In the overwhelming majority of contract cases, in which the term “shall” figures, courts seemed to take for granted its mandatory function in contract law. This study thereby indicates that courts recognize the distinctive operation of contract language as opposed to statutory language, even when the words happen to be the same. The courts are attuned to the distinction.

Can such distinctions in the meaning and uses of the same word, be picked up by training an original algorithm for generating large data sets for analysis? Can AI take up the task of interpretation, where legal scholars themselves are sometimes found lacking?

Many big questions arise in employing big data for understanding the development of private law. Today we see only the very first steps being made in a long journey towards this direction.

References

[1] Macro studies, or large-scale analysis boosted by big data, have been used to identify broad patterns and forecast trends in a range of fields, such as economics, finance, sociology, and healthcare, to name just a few. See generally Macro Trends, Bain & Co., https://www.bain.com/insights/topics/macro-trends/ (Last visited December 21, 2024).

[2] Legal policy and public law developments have been analysed by independent and government think tanks. See generally https://vidhilegalpolicy.in/research/ (Last accessed December 22, 2024).

[3] Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, Text and Context: Contract Interpretation as Contract Design, 100 Cornell L. Rev. 23, 23 (2014). ("Contract Interpretation remains… the most contentious area of contemporary contract doctrine and scholarship.").

[4] Joshua M. Silverstein, Contract Interpretation Enforcement Costs: An Empirical Study of Textualism Versus Contextualism Conducted via the West Key Number System, 47 Hofstra L. Rev. 1011, 1026 (2019) (Discussing why "law professors have produced so few empirical studies of contract interpretation").

[5] See Contra proferentem, Black's Law Dictionary (10th ed. 2014) ("In the interpretation of documents, ambiguities are to be construed unfavorably to the drafter.").

[6] Ethan J. Leib, The Textual Canons in Contract Cases: A Preliminary Study, 2022 Wis. L. Rev. 1109, 1111 (“Identifies the dearth of study of contract canons to understand development of private law.”)

[7] Alan Schwartz & Robert E. Scott, Contract Theory and the Limits of Contract Law, 113 Yale L. J. 541, 547 (2003) (“Arguing for a textualist interpretation as the default for firm-to-firm contracts.”).

[8] Farshad Ghodoosi & Tal Kestner, Big Data on Contract Interpretation, 57 U.C. Davis L. Rev.. 2553 (2024) (“Suggesting diminishing role of individuals in contract litigation and the centrality of corporate entities in shaping contract law. The study further reveals that trends suggest that courts do not apply doctrines developed in certain contract contexts to other contract contexts in predictable ways.”).

[9] Tina L. Stark, Shall- Beaten, Bloodied but Unbowed (January, 28, 2015); Drafting Contracts- How and Why Lawyers Do What They Do?, Aspen Publishing 3rd Edition (February, 27, 2024).

[10] Caryn Devins et al, The Law and Big Data, 27 Cornell Journal of Law and Public Policy 357 (2017). (“Cautioning against using big data to replace independent legal judgement.”).

Organizational strategies to foster positive employee attitudes toward AI adoption

AMITA TODKAR

Amita is a researcher specializing in human-AI interactions within organizational settings. With over 8 years of experience spanning diverse industries, she combines her expertise in business consultancy to explore how human-machine augmentation can drive organizational transformation.

RACHIT HARITWAL

Rachit is a corporate strategy professional with expertise in public policy. He has worked extensively with state governments in India to scale social protection programs through technology-based solutions. He also has deep operational expertise in energy, rural development, education and skill development.

Named the general-purpose technology of our time, artificial intelligence (AI) is garnering considerable attention from various organizations. Today's organizations are witnessing an unprecedented change in ways of working as AI technology becomes increasingly ubiquitous in the workplace. While this technological evolution promises enhanced productivity and creative possibilities, it naturally creates tensions between the automation and augmentation effects of AI. While organizations focus on strategic value, competitive advantage, and investments in AI, human capital is often left out.

In our latest report, "Labour-force Perception About AI: A Study on Indian White-Collar Workers," we examine themes regarding human-AI collaboration, algorithmic capabilities, employees' attitudes and experiences related to AI and AI's effects on the labor market.

To fill the gap in understanding AI adoption from an employee's point of view, we conducted personal interviews and a cross-sectional survey. The insights from our research highlight the role of organizational support in shaping employee attitudes toward AI. Workers worry about their future roles but also feel the need to upskill in AI for career growth.

Factors influencing employee attitudes toward AI

Job Security

One of the primary drivers of negative employee attitudes toward AI is the fear of job displacement. Many employees perceive AI as a direct threat to their roles, believing that automation will render their tasks obsolete. This fear can lead to resistance to AI adoption and a decline in job satisfaction, making it essential for organizations to address these concerns head-on.

Upskilling in AI

The introduction of AI necessitates that employees acquire new skills and knowledge to effectively collaborate with AI systems. Respondents in our research felt strongly about the need to upskill for both their current and future roles. Employees who feel unprepared or anxious about their ability to adapt may resist AI integration, which can hamper organizational efforts. Some workers feel overwhelmed by the learning curve and may hesitate to embrace AI if they doubt their ability to master new skills.

Organizational Support

Our research indicates that strong organizational support can significantly reduce the threat appraisal related to AI adoption. By providing clear communication, job security assurances, and access to training, organizations can help employees feel more confident navigating the AI-driven transformation. Facilitating conditions, such as access to AI tools, proper infrastructure, technical support, and training, are crucial in shaping employees' positive perceptions of AI.

Perceived Usefulness of AI

Employees are embracing AI's productivity benefits at work and look forward to the automation of routine tasks. When AI is seen as a supportive tool that augments human capabilities, rather than a replacement for workers, employees are more inclined to view its adoption positively. Organizations can highlight the potential for AI to streamline routine tasks and allow employees to focus on more complex and creative work.

Organizational strategies to manage employee attitudes in AI implementation

Develop upskilling and reskilling programs

Organizations can reduce anxiety by equipping employees with the necessary training to work alongside AI systems. These programs should focus on empowering employees to use AI as a tool that enhances their roles, rather than something that diminishes their value. This framing helps employees view AI as a resource that augments their abilities rather than as a competitor for their jobs.

Address employee feedback

When employees feel they have a voice in how AI is implemented, they are more likely to view it positively. Individual differences, such as work experience, age, and prior technological experience, play a significant role in how employees perceive and respond to AI.

Tailoring training programs and communication strategies to meet these individual needs can increase engagement and foster more positive attitudes. Additionally, organizations should involve employees in the AI adoption process, giving them opportunities to provide input, make decisions, and engage with the technology in ways that promote a sense of agency.

Provide facilitating conditions

Access to AI tools and ongoing support are crucial in shaping employee perceptions of AI. Providing employees with the necessary resources not only helps them feel more capable of adapting to AI but also encourages them to see AI as a beneficial tool for their work.

Our study shows that when employees perceive that their organization is committed to supporting them through the AI transition, they are more likely to embrace the changes rather than resist them.

Balance the risks and rewards of AI

Organizational decisions in AI adoption play a key role in addressing both the potential benefits and drawbacks of AI. While AI can improve decision-making, efficiency, and innovation, it also raises concerns such as ethical implications, potential biases, and job displacement. Decision-makers must adopt a balanced approach by promoting AI's benefits while acknowledging and addressing its risks. This includes establishing robust governance frameworks and ensuring that ethical considerations are integrated into AI strategies. A transparent approach with strong governance frameworks helps create a more trusting environment for employees to transition.

Conclusion

To successfully manage employee attitudes toward AI, organizations must create a supportive environment that mitigates fears and enhances positive perceptions of AI's value. Empowering employees with a sense of agency and involvement in the process, while ensuring robust organizational support, can foster a more positive, productive, and future-ready workforce

Upcoming Events

IIMA-ORSI Competition on Practice of Management Science and Analytics

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ORSI Ahmedabad Chapter

The Brij Disa Centre for Data Science and Artificial Intelligence at the Indian Institute of Management, Ahmedabad (IIMA), in collaboration with the Operational Research Society of India (ORSI) Ahmedabad Chapter, is hosting a Competition on Practice of Management Science and Analytics.

Objectives

The primary goal of this competition is to highlight and reward exemplary practical applications that have made significant impacts in the industry. Unlike academic awards that focus on theoretical contributions, this competition prioritizes real-world solutions with tangible benefits, such as financial gains or policy changes.

The Brij Disa Centre of Data Science and Artificial Intelligence at IIMA and Operational Research Society of India, Ahmedabad Chapter announced five projects from five organizations that have been selected as finalist for IIMA-ORSI Prize for Practice of Management Analytics and Management Science. These projects demonstrate significant impact, with potential benefits ranging from tens to hundreds of crores.

The projects are real world applications of management science application in the these organizations. These projects have either reduced cost, improved profits, increased revenue or created additional business by application of Analytics.

The five companies will present their work to a panel of juries on **Sunday 12th January 2024**. The jury members is comprised of members both from academia and the industry. The winner of the award will be announced on this date.

To Know more, visit the IIMA ORSI Official website →

Webinars and Seminars

Practical Marketplace Optimization at Uber Using Causally-Informed Machine Learning

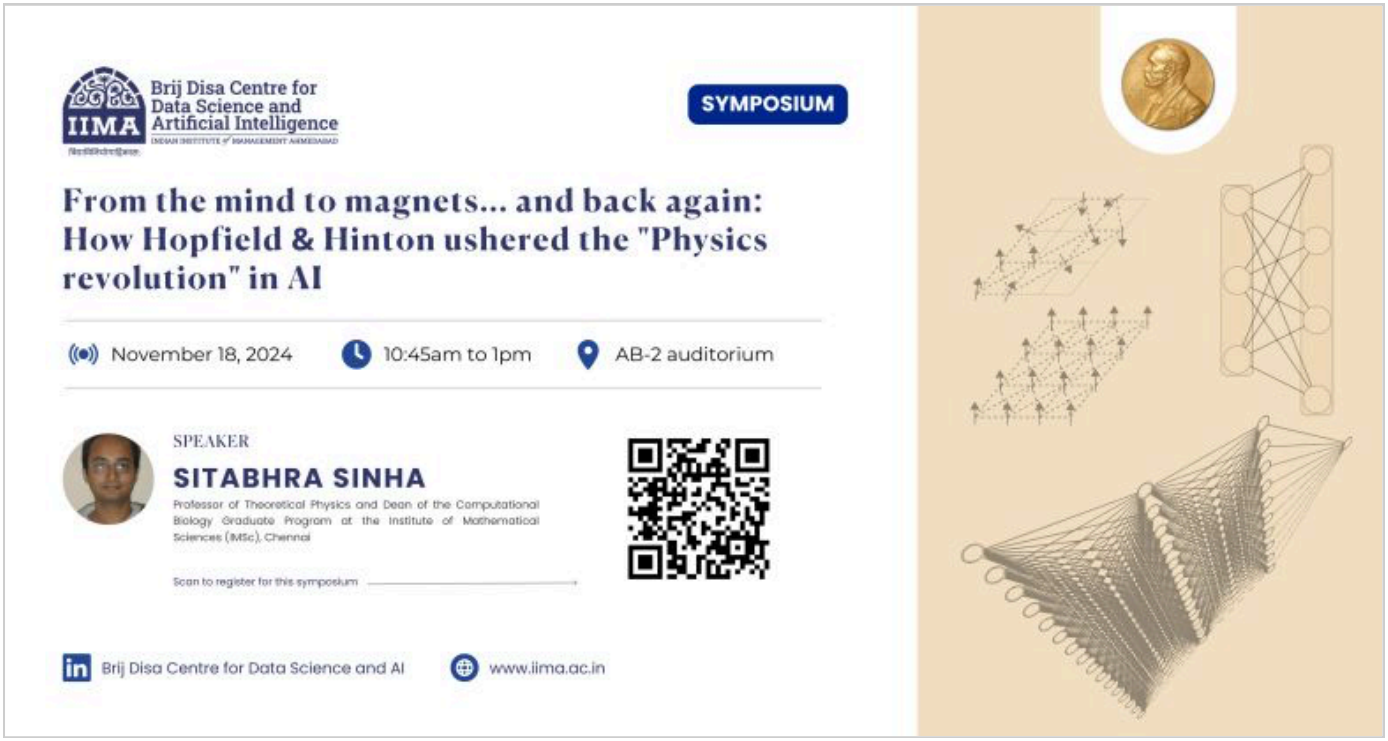
About the speaker:

Vinayak Iyer, Senior Applied Scientist at Uber, with a PhD in Economics from Columbia University. Vinayak specializes in incentive budget allocation and structural pricing optimization.

About the talk:

Budget allocation of marketplace levers, such as incentives for drivers to complete certain trips or promotions for riders to take more trips have long been both a technical and business challenge at Uber. It is crucial to understand the impact of lever budget changes on the market and to estimate their cost efficiency given the need to achieve predefined budgets, where the eventual goal is to find the optimal allocations under those constraints that maximize some objective of value to the business. We introduce an end-to-end machine learning and optimization procedure to automate budget decision-making for cities where Uber operates. We propose a state-of-the-art deep learning (DL) estimator based on S-Learner that leverages a massive amount of user experimental and temporal-spatial observational data. We also built a novel tensor B-Spline regression model to enforce efficiency shape control using experimental data while retaining the sophistication of the DL models' response surface. This procedure has demonstrated substantial improvement in Uber's ability to allocate resources efficiently.

From the Mind to Magnets... and Back Again: How Hopfield & Hinton Ushered the 'Physics Revolution' in AI



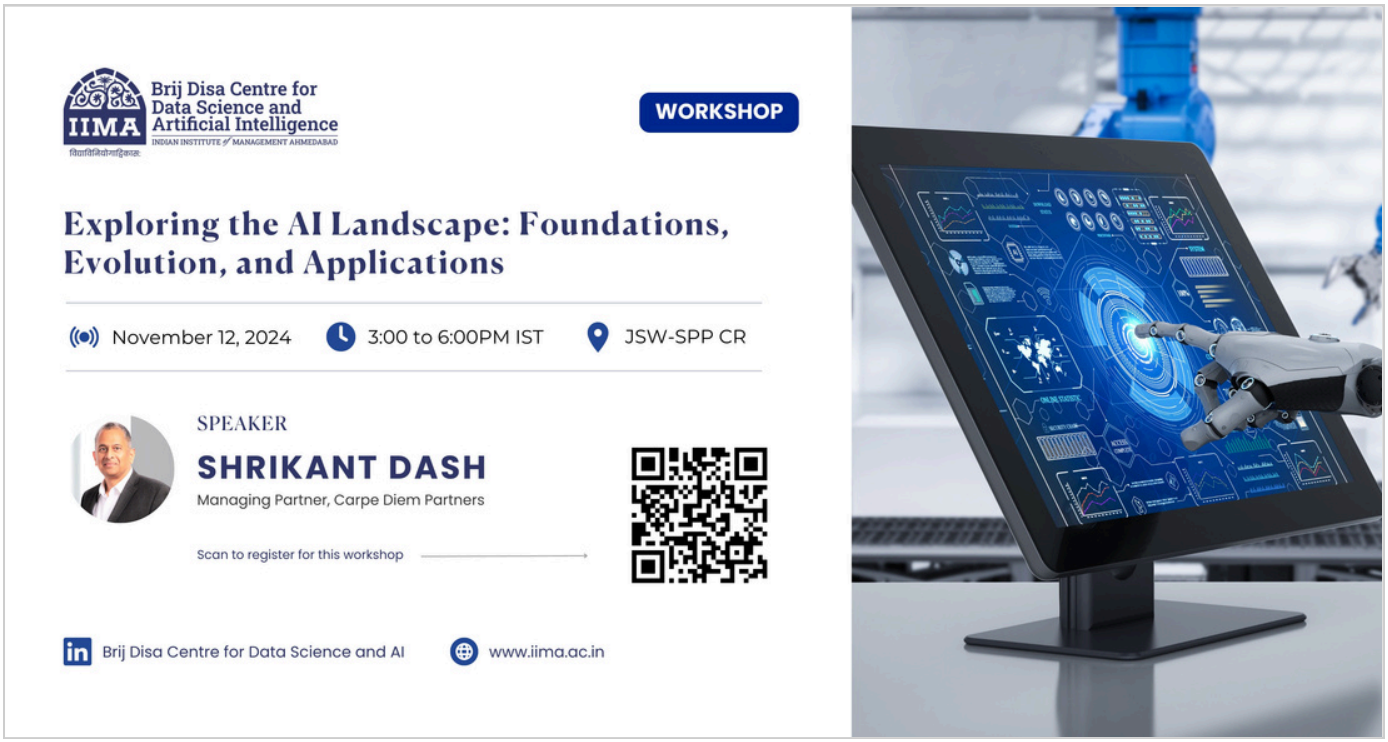
About the speaker:

Sitabhra Sinha is Professor of Theoretical Physics and Dean of the Computational Biology Graduate Program at the Institute of Mathematical Sciences (IMSc), Chennai and was earlier also adjunct faculty of the National Institute of Advanced Studies (NIAS), Bangalore and the Department of Computer Science, IIT Kharagpur. He did his PhD on chaotic neural networks at the Machine Intelligence Unit of the Indian Statistical Institute, Kolkata and postdoctoral research at the interface of physics & biology, in the Department of Physics of the Indian Institute of Science (IISc), Bangalore and later in the DIvision of Cardiology at the Weill Medical College of Cornell University, New York City. After joining the faculty of IMSc in 2002, he has held joint appointments in the Theoretical Physics and Computational Biology groups. His research interests span complex systems, nonlinear dynamics and statistical physics with applications to systems biology, economic & social sciences and computational linguistics.

Abstract:

The millennia-old division between physical and living systems has been gradually breaking down from the middle of the last century. Ever since the 1940s, when Bohr, Schrodinger, McCulloch, Pitts and other scientists showed that aspects of both life and mind can be understood in terms of simple physical models, it's becoming clear that living organisms can be understood using only physico-chemical processes without requiring any "vitalism"-like property that is supposedly unique to living systems. That life and mind are just processes which emerge through interaction between inanimate components is shown brilliantly in the elegant work of Hopfield, later extended by Hinton, that was honored by the Nobel Committee this year. In this talk we will trace how physics illuminated and inspired the breakthroughs that eventually led to deep learning and the present era of AI.

Exploring the AI Landscape: Foundations, Evolution, and Applications



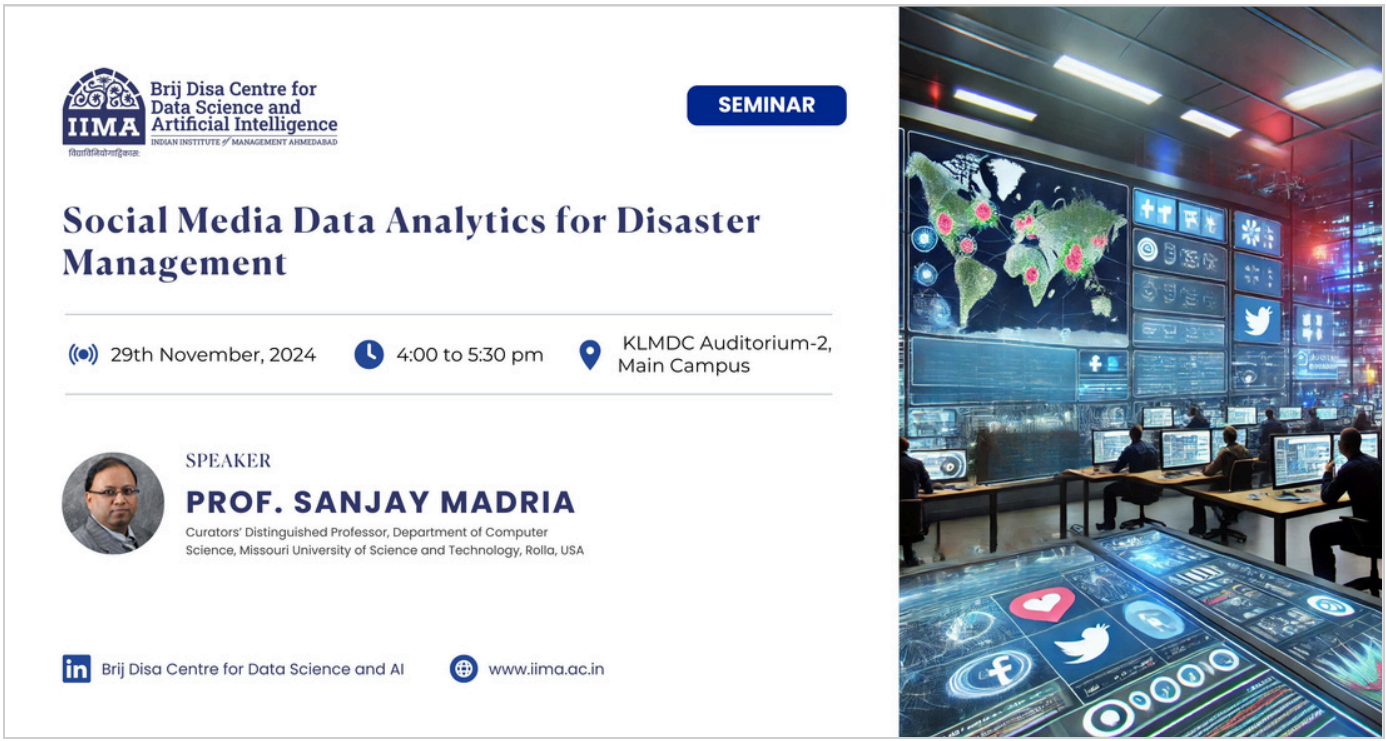
About the speaker:

Shrikant Dash, Managing Partner at Carpe Diem Partners, brings extensive expertise in organizational advisory and AI. Formerly Chief Lending Officer at Alliant Credit Union and Chief Analytics Officer at Citigroup's Global Consumer Bank, Shrikant has also held senior roles at Discover Financial Services, General Electric, and Morgan Stanley. A pioneer in global analytics for GE in the 1990s, he possesses deep knowledge in AI, machine learning, and CRM. Shrikant has served on boards like MasterCard Europe and holds multiple U.S. patents in financial decisioning. He earned his Ph.D. from the University of Rochester and additional degrees from Ravenshaw and Hyderabad universities.

About the workshop:

This workshop will cover the basics of AI, including data, computation, and analytics fundamentals, highlighting AI's role in business. It will explore the evolution of AI and business analytics across key industries —financial services, healthcare, insurance, industrial manufacturing, retail, and e-commerce. Additionally, the workshop will also discuss the current AI inflection point driven by adaptive computation and availability of GPU chipsets, which enable advanced modeling for numerical, language, and image data (AI/ML, LLMs, VAEs). The workshop will also examine real-world use cases and practical applications of next-generation ML models, including generative and agentic AI.

Social Media Data Analytics for Disaster Management



About the speaker:

Sanjay K Madria is a Curators' Distinguished Professor in the Department of Computer Science at the Missouri University of Science and Technology (formerly, University of Missouri-Rolla, USA). He has published over 300 Journal and conference papers in the areas of mobile and sensor computing, big data and cloud computing, data analytics and cybersecurity. He won five IEEE best papers awards in conferences such as IEEE MDM and IEEE SRDS. He is a co-author of a book (published with his two PhD graduates) on Secure Sensor Cloud published by Morgan and Claypool in Dec. 2018. He has graduated 21 PhDs and 34 MS thesis students, with 12 current PhDs. NSF, NIST, ARL, ARO, AFRL, DOE, Boeing, CDC-NIOSH, ORNL, Honeywell, and others have funded his research projects of over $25M. He has been awarded JSPS (Japanese Society for Promotion of Science) invitational visiting scientist fellowship, and ASEE (American Society of Engineering Education) fellowship. In 2012 and in 2019, he was awarded NRC Fellowship by National Academies, US. He is ACM Distinguished Scientist and served as an ACM and IEEE Distinguished Speaker He is an IEEE Senior Member and IEEE Golden Core Awardee.

Abstract:

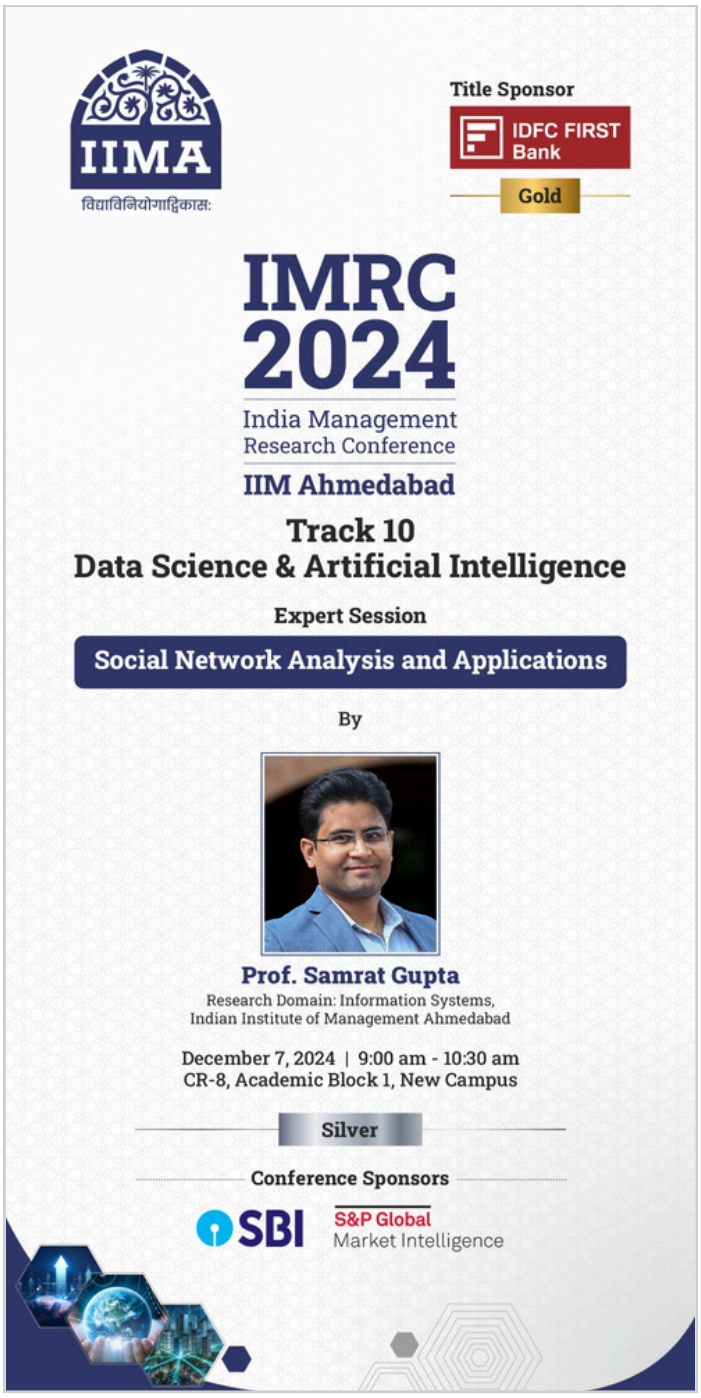
A disaster can refer to an effect and result of natural hazards like the hurricane, flood, earthquake, tornado, heatwave, etc. Every activity of a disaster management such as taking precautions, managing evacuation, running rescue missions demands accurate and up-to-date information to allow a quick, easy and cost-effective process and hence reduce the loss of lives and properties. Social media has emerged as a valuable supplementary tool in this context, providing real-time data that can assist authorities in developing prompt and effective response strategies. However, despite its potential, utilizing social media data for disaster management presents several challenges. It needs a multi-faceted approach that leverages deep learning and natural language processing (NLP) techniques tackling the complexities of contextual information and the relevance of social media content. The talk will offer actionable insights that significantly enhance situational awareness information, and decision-making during disasters.

Social Network Analysis and Applications

About the speaker:

Samrat Gupta is an Associate Professor in the Information Systems area at the Indian Institute of Management, Ahmedabad. His research revolves around three themes: network analytics, social media & crowdsourcing platforms, and human centered digitalization. He received his doctoral fellowship from the Indian Institute of Management Lucknow and a bachelor's degree from Punjab Engineering College Chandigarh.

Prof. Samrat's work has appeared in leading journals, such as Information Systems Research, Decision Support Systems, Information Sciences, Data & Knowledge Engineering, and Journal of Business Research, amongst others. He has also been a recipient of a SPARC research grant by the Ministry of Education, Government of India.



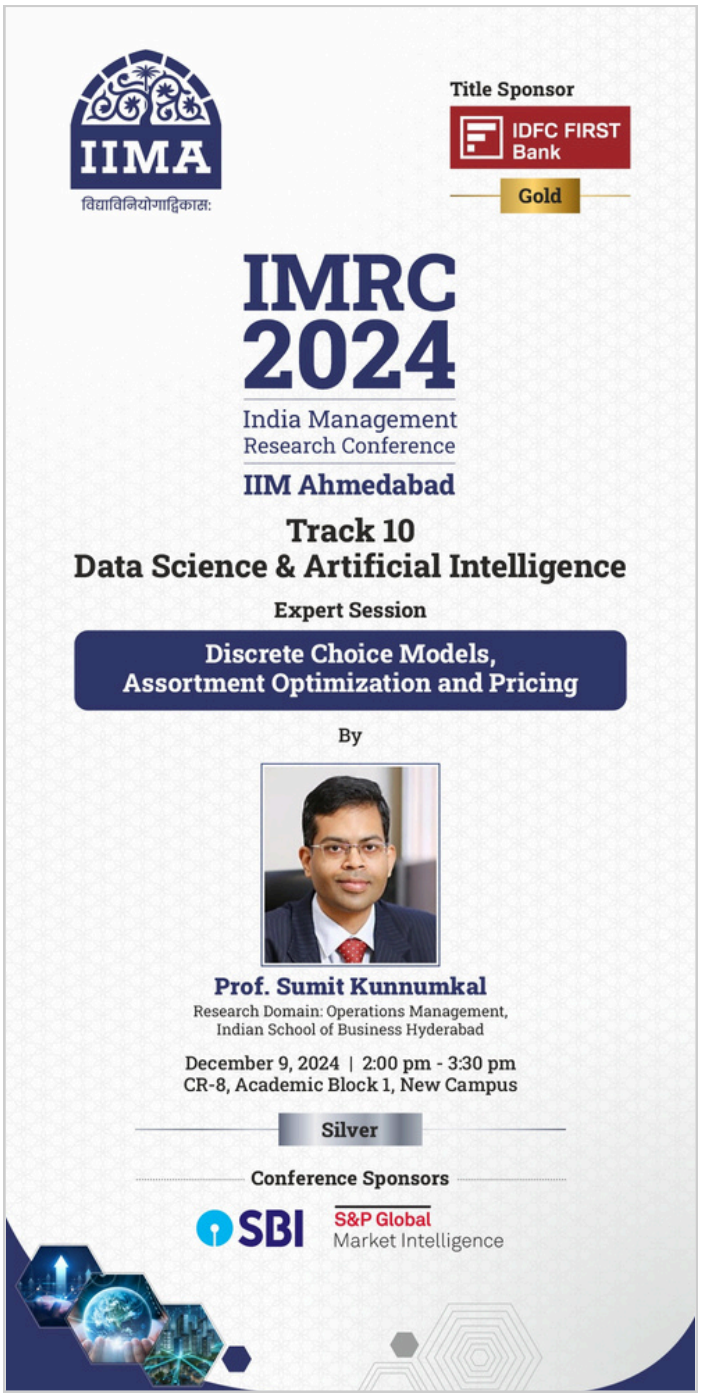
About the workshop:

Prof. Samrat Gupta, Associate Professor in the Information Systems area delivered the first keynote session for the Brij Disa Centre of Data Science and Artificial Intelligence. The session covered key topics related to Social Networks and Analysis and gave participants a comprehensive overview of the characteristics and properties of social networks. The CDSA track also hosted multiple oral presentations covering a range of topics related to the use of Data Science and AI in behavioural finance, analysing consumer behaviour and developmental economics.

Discrete Choice Models, Assortment Optimization, and Pricing

About the speaker:

Sumit Kunnumkal is a Professor of Operations Management at the Indian School of Business. He holds a Ph.D. in Operations Research from Cornell University. He received his M.S. in Transportation from the Massachusetts Institute of Technology and his B.Tech. in Civil Engineering from the Indian Institute of Technology, Madras. He has previously taught at the Smith School of Business, Queen's University and has held visiting positions at the Singapore University of Technology and Design and Universitat Pompeu Fabra. His research interests lie in the areas of pricing and revenue management, retail operations, assortment planning and approximate dynamic programming. He has taught in the Post Graduate Program, the Fellow Program and various advanced management and executive education programs at ISB.



About the workshop:

In this session, we reviewed the growing body of work on assortment optimization and pricing. We began with a review of classical discrete choice models, which described how a representative customer chose from a set of alternatives. We then considered the assortment optimization problem of how a firm could decide on the optimal assortment to be shown to a given customer. While the assortment optimization problem under some choice models admitted efficient solution methods, it turned out to be intractable under other choice models.

Finally, we considered the pricing problem where the assortment was fixed and the firm had to determine the optimal prices that maximized its revenues. Time permitting, we also reviewed the proofs of some fundamental results in this field.

Chairpersons

Ankur Sinha

Sriram Sankaranarayanan

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