

Dr. Sayaji Hande

Professor, Author, Board Member and Industry & Research Leader in AI & Statistical Machine Learning

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SUMMARY

An established leader in Artificial Intelligence, Machine Learning, and Statistics, with over 31 years of expertise in the technology field focusing on innovations and product development leveraging AI and Statistical Machine Learning. I have worked in leadership roles across leading multinational technology companies and in globally renowned universities as a faculty member. **I have over 20 patents and publications to my name** in the applications of statistical machine learning across digital industries. I have received multiple global recognitions for my work, especially my **seminal work in computational statistics by providing [the proof for Bapat-Beg theorem](#)**. The Govt. of India appointed me as one of the board members for the school of Computer Science & Mathematics for the Central University of the Indian State of Rajasthan and I have led the establishment of three global companies in India - **Flagstone India, marketRx India (acquired by Cognizant Technologies) and Parsec Software**.

INDUSTRY AND ACADEMIC EXPERIENCE

Shivaji University, Kolhapur, India	Adjunct Professor, Computer Science & Statistics	Since Jun'23
<ul style="list-style-type: none">- Teaching advanced courses in the Artificial Intelligence and Machine Learning area- Conducting research on statistical machine learning methods and applications to financial informatics- Developed a new foundational course for undergraduate students with research interests.- Authored a foundational book "Mathematics Behind Artificial Intelligence & Machine Learning" (<i>under editing</i>)		
Codvo.AI, Pune, India	Industry & Research Advisor – AI and Machine Learning	Since Apr'23
<ul style="list-style-type: none">- Providing guidance and expertise in AI and machine learning projects for building AI products- Advising in defining research objectives and selecting appropriate methodologies for product development and modelling- Codvo.ai is a leader in AI-powered solutions, helping industries (e.g., energy, supply chain, healthcare, FinTech) to transform operations.		
ICFAI Tech School, Hyderabad (Part of The ICFAI University, India)	Professor, Computer Science and Data Science	2018-2021
<ul style="list-style-type: none">- Conducting research focusing on Machine Learning and AI at one of the top-ranking engineering institutes in India.- Teaching graduate and undergraduate students' courses spanning from foundational courses to advanced statistical courses.- IFHE is one of the largest multidisciplinary universities in India, with an active strength of 10,000+ students.- Published fundamental paper on 'Network flow Optimization through Monte Carlo Simulation.'		
Adobe Systems, Bangalore, India	Senior Research Scientist (Adobe Research Labs)	2012-2014
<ul style="list-style-type: none">- Led Adobe's research teams on to build innovative AI based technologies for Adobe's Experience Cloud- Led research on applications of statistical models, particularly experimentation to the digital marketing industry.- Co-inventor for 3 patents for innovations in Digital Marketing field, which are part of Adobe's Experience Cloud products.		
Central University of Rajasthan (Govt. of India)	Board Member - School of Computer Science & Mathematics	2009-2014
<ul style="list-style-type: none">- Nominated by Govt. of India as member of the board of education to lead Rajasthan's Central University- Played a key role in the long-term vision for the university, collaborating with the leadership to develop strategic plans for advancement of education and research.- Formulated operational policies for better governance including curriculum, faculty appointments & budgeting.		
NEXTGEN Innovation Labs (NIL), India	Senior Director, Analytics & Innovation	2010-2012
<ul style="list-style-type: none">- Leading the Telecom innovation team for development and commercialization of telco digital products- Led to team to build and launch patented analytical products for telecom market on consumer experience management.- Filed two patents with US Patent office, on innovations related to telco experience and market share management.		
Cranes Software Inc, India	Vice President, Analytics	2008-2009
<ul style="list-style-type: none">- Vice President and Chief Statistician for Indian Ministry of Finance project leading Statistical Analysis Centre and risks detection.		

- Built technology product approaches and process refinements to drive incremental savings of USD 150 million.
- Developed digital pricing and valuation products based on SAS architecture and advanced statistical machine learning techniques.

Flagstone Research, India **Senior Vice President, Analytics** 2005-2007

- Established Indian operations and business for Flagstone Capital, a global fintech giant.
- Led software product development and launch for automation for insurance profiling (DFA), catastrophic reinsurance, asset management and liability management.

IBM Research Labs (IBM Corporation) **Research Scientist, Computer Science & Data Science** 2004-2005

- Led research, innovation and product development teams on data analytics products and process development for wildfire management, budgeting, predictions, and optimizations for dynamic pricing for railway - one of the world's first dynamic pricing techniques.
- Worked with Government project on launch and integration of the product with analytics and response infrastructure.

marketRx India (Acquired by Cognizant Technologies) **Vice President, Advanced Analytics** 2003-2004

- Established India operations of the multinational Pharma-tech company, led acquisition by Cognizant for USD 170 Million
- Led the technology team for pharma-tech products including sales lifecycle management and B2B e-commerce.

GE Capital India **Assistant Vice President, Analytics Center of Excellence** 2001-2003

- Leading global statistical modeling and technology product teams related to PLCC (Private Label Credit Cards) to build products for various digital campaigns with appropriate test and control.
- Key products include PLCC Promotions – Risk Response matrix, Data Mart management application, report production and analysis.
- Led independent assessment of service quality for the competition commission in Canada.
- Filed two patents on innovations in fintech related to statistical modeling and machine learning.

Parsec Software, India **General Manager, Technology** 1999-2001

- Led analytical product teams for feasibility and prototype design, leading development and test environments and launching products in the market related to voicemail and call-center operations.
- Parsec was one of the largest telephony companies in India with state of the art Voicemail and Call center software.

Johnson Controls, India **Project Manager** 1996-1999

- Led project delivery and management for firmware development for TM9180 thermostat and integrated network devices. This included display for network applications, configuration tools and compiler development.

Cytel Software Incorporation, Boston **Software Engineer** 1994-1996

- Led the software engineering of StatXact, LogXact and StatTable technology products for biostatistics applications.
- Developed and applied innovative data compression techniques such as Markovian techniques, substitutions (dynamic and static) and optimal encoding with C/ C++; Java

Indian Statistical Institute **Visiting Scientist, Statistics** 1992-1994

- Teaching statistical courses in the world-renowned institute recognized as an Institute of National Importance by Indian Government.
- Conducting research on statistical machine learning methods and their applications.

PUBLICATIONS AND PATENTS

- Predicting spread of content across social networks (*US Patent 11,095,597*) ([link](#)) 2021
- Normalizing user responses to an event by removing behavioral bias (*US Patent 10,318,971*) ([link](#)) 2019
- Network flow Optimization through Monte Carlo Simulation (*International Conference on Parallel, Distributed & Grid Computing*) ([link](#)) 2018
- Seed group selection in a probabilistic network to increase content dissemination (*US Patent 9,524,527*) ([link](#)) 2016
- Method for measuring market share for a communication service provider (*US Patent App. 13/195,731*) ([link](#)) 2013

- Effective method of measuring wireless consumer experience insights (*US Patent App. 13/022,907*) [\(link\)](#) 2012
- Statistical proofs of some matrix results (*Journal: Linear and Multilinear Algebra 38 (1-2), 109-116*) [\(link\)](#) 2007
- Some majorization properties of order statistics from heterogeneous populations (*Metron-International Journal of Statistics*) [\(link\)](#) 2001
- Statistical Models for Consumer Preferences (*Journal of Indian Statistical Association*) [\(link\)](#) 1997
- A note on order statistics for nondentically distributed variables (*Sankhyā: The Indian Journal of Statistics*) [\(link\)](#) 1994
- An optimal sequential procedure for ranking pairwise compared treatments (*Calcutta Statistical Association Bulletin 43*) [\(link\)](#) 1993
- Single-sample Bayes and empirical Bayes rules for ranking and estimating multinomial probabilities (*Journal of statistical planning and inference*) [\(link\)](#) 1993
- Contributions to nonparametric selection and ranking procedures (*Purdue University ProQuest Dissertations Publishing*) [\(link\)](#) 1992
- Some Results On Bayes and Empirical Bayes rules for Ranking Pairwise Compared Treatments (*Purdue University, Department of Statistics*) [\(link\)](#) 1991
- Single-stage Bayes and empirical Bayes rules for ranking multinomial events (*Purdue University, Department of Statistics*) 1991
- On Selecting a Population Close to a Control: A Nonparametric Approach (*Purdue University, Department of Statistics*) [\(link\)](#) 1990
- On Some Nonparametric Selection Procedures (*US Defense Technical Information Reports*) [\(link\)](#) 1990
- Nonparametric Selection, Ranking and Testing (*US Defense Technical Information Reports*) [\(link\)](#) 1990
- Lagrange's Bound for the Roots of a Polynomial (*Bulletin, Bombay Mathematical Colloquium, volume 3*) 1985

EDUCATIONAL QUALIFICATIONS

Purdue University, USA - PhD in Statistics (1992), GPA 6.0/6.0

Purdue University, USA - MS in Statistics (1989), GPA 6.0/6.0

Indian Statistical Institute, Calcutta, India - M. Stat. (1986), First Class