

tcg crest

Inventing Harmonious Future

Institute for Advancing Intelligence (IAI)

Data Driven Intelligence and AIML to solve real world problems

Vision of IAI

Vision

Establish itself as an autonomous, self-funded, world-class Centre of Excellence for Data-driven Intelligence, Artificial Intelligence & Machine Learning (AI & ML)

Relentlessly provide best-in-class learning environment for research in quantitative, computational, technological and analytical streams

Galvanize mastery in modern techniques for application in traditional areas like finance, logistics, healthcare, neurosciences, cyber security, cryptography, robotics, legal informatics, recommendation engines, natural language processing, video analytics, image processing, computer vision and many more

Embrace Life Long Learning – empower knowledge workers to remain in sync with the interminable transformation of technology

Inculcate a strong culture of collaboration – continual knowledge exchange through joint research projects, faculty exchange, student exchange with leading universities, research institutes and corporate entities of the world



Prof. Rajeeva Laxman Karandikar
Director – IAI

Prof. Rajeeva Laxman Karandikar is a Fellow of the Indian Academy of Sciences and Indian National Science Academy. An M.Stat (1978) and PhD (1981) from the Indian Statistical Institute (ISI), Calcutta, he was a postdoctoral research scholar at the University of North Carolina, Chapel Hill. In 1984 he returned to ISI, Delhi and became a professor. In 2006, he moved to Cranes Software International as Executive Vice President for analytics. In 2010 he joined the Chennai Mathematical Institute as its

Director. His research interests include several areas of probability theory, filtering theory, option pricing theory, psephology in the context of Indian elections and cryptography. In 1999 he was awarded the prestigious S.S. Bhatnagar Prize in Mathematical Science. Apart from authoring two books, he has several important papers published in leading international journals on mathematics and statistics.

How IAI will be different?



Blend statistical ideas developed over a century with AIML algorithms - encourage faculty, researchers and students to actively explore such possibilities



Steer the institutional DNA away from pushing domain specific data through AIML engines for surmising outcomes



Explore and understand specific domains
Appreciate from where the data is coming from to choose the right variables
Apply pertinent statistical techniques
Develop and select well-founded algorithms
Obtain explicable and meaningful conclusions

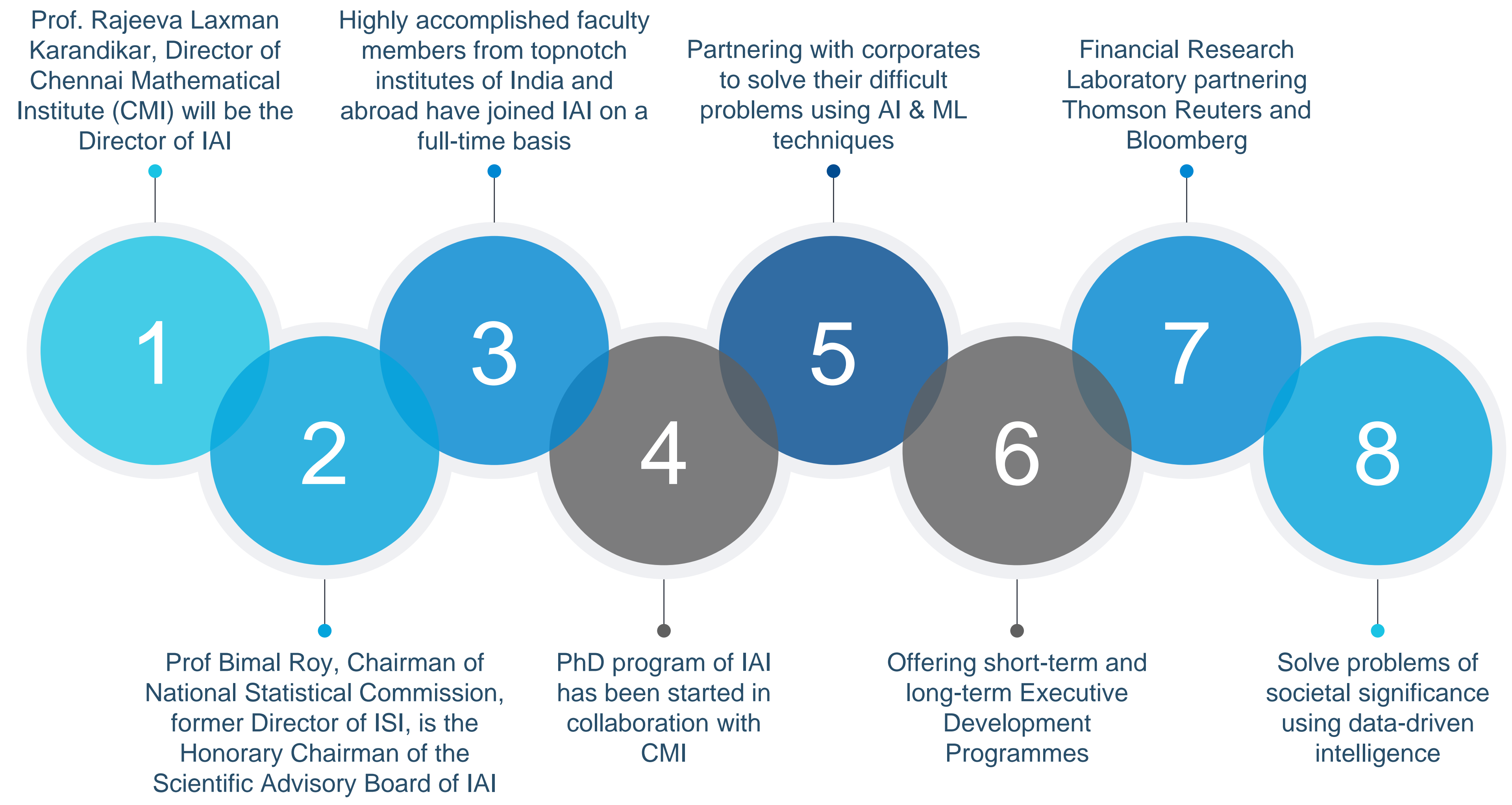


Focus on a new class of AI Tools to yield Explainable AI (XAI) algorithms – clearly the future of AI (Regulators won't trust AI tools if they can't be explained)



Other focus areas
AI based secure solutions for the post-quantum world
Cybersecurity of critical infrastructure like banking and power with AI & ML tools

Overview of IAI



Academic & Research Programmes

01

PhD programme in Data Driven Intelligence in collaboration with CMI

02

One-year intensive diploma programme to create industry ready business analytics professionals

03

Sponsored research with focus on analytics in

- (1) Cyber Data & Cyber Traffic
- (2) Financial Data
- (3) Cryptography including Quantum Cryptography
- (4) Translational Neurosciences
- (5) Robotic Process Automation

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Pro-bono research to solve difficult problems for direct benefit of society like

- (i) Air Quality
- (ii) Underground Water
- (iii) Soil Erosion
- (iv) Water Quality
- (v) Disaster Management
- (vi) Stampede Control

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Executive Development Programmes

Short-duration: 4 to 6 days focused on (1) Science of Data-driven Decision Making (2) Business Applications of AI & ML (3) Business Forecasting Analytics (4) Digital & Social Media Marketing Analytics

Long-duration: for working executives who want to re-tool themselves – 7 to 9 months with short bursts of 3 to 4 days of online classes, home tasks, projects, thesis and examinations

www.tcgcrest.org

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Inventing Harmonious Future

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