

ACTIVITY

January-March 2023

REPORT



Kotak IISc AI-ML Centre

Indian Institute of Science



भारतीय विज्ञान संस्थान

Kotak IISc AI-ML Centre

Indian Institute of Science



Activity Report

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Objectives of KIAC

The Kotak IISc AI-ML Centre (KIAC) was conceived with the vision of creating a state-of-the-art AI-ML and Fintech Centre at IISc with the following objectives.

- Develop rigorously trained human resources who will become future leaders of this technology and champion India's surge in this area.
- Conduct cutting edge research in this area leading to international visibility of the highest order
- Develop innovative, deep-tech solutions to meet the current and emerging requirements of the industry.



These objectives have been the focus of all our activities.

Scientific Advisory Board

Prof Rajesh Sundaresan, IISc (Chair)
 Prof Chiranjib Bhattacharyya, IISc
 Prof Sashikumaar Ganesan, IISc
 Prof Srikanth K Iyer, IISc
 Mr Devendra Sharnagat, KMBL

Governing Board

Prof Govindan Rangarajan, Director IISc (Chair)
 Prof Navakanta Bhat, IISc (Member)
 Prof Yadati Narahari, IISc (Member)
 Prof Kaushal Verma, IISc (Member)
 Mr Chetan Savla, KMBL (Member & KMBL representative)
 Mr Jaimin Bhatt, KMBL (Member)

Setting up the KIAC office

A new office space was created, with abundant area for faculty and staff members to work, for regular meetings and discussions, and for a library. The required laptops, desktop computers, printer, and other items required for the office have been procured.



Inauguration

The new KIAC office was inaugurated on 18 January 2023 by Shri Prakash Apte (Chairman (Non-Executive), Kotak Mahindra Bank Limited (KMBL) and Prof Rajesh Sundaresan (Dean, Electrical, Electronics, and Computer Sciences Division (EECS), IISc). Delegates from KMBL and IISc were present, and they discussed the way forward for the Centre.



Organisational structure

The governance of the Centre will be overseen by the following structure. The Convenor and Co-convenor will be responsible for creating technical programmes, which are in-line with the memorandum of understanding (MoU). These programmes will be presented to the Scientific Advisory Board (SAB) to ensure that the conceived programmes are compatible with the MoU. The SAB will report to the Governing Board.

The KIAC team

The KIAC Team members have been identified and are on board. Brief profiles of the members have been given below.

Chiranjib Bhattacharyya

Convenor



Chiranjib Bhattacharyya is currently the Tata Chem Professor and Chair of the Department of Computer Science and Automation (CSA) at IISc.

His research interests are in foundations of machine learning, optimisation, and their applications to industrial problems.

He has authored numerous papers in leading journals and conferences in machine learning. Some of his results have won best paper awards.

He joined the Department of CSA in 2002 as an Assistant Professor. Prior to joining the Department, he was a postdoctoral fellow at the University of California, Berkeley.

He holds Bachelor's (BE) and Master's (ME) degrees, both in Electrical Engineering, from Jadavpur University and IISc, respectively, and completed his PhD from the Department of CSA, IISc. He is a Fellow of the Indian Academy of Engineering and the Indian Academy of Sciences.

Sashikumaar Ganesan

Co-convenor



Sashikumaar Ganesan is an Associate Professor and Chair of the Department of Computational and Data Sciences (CDS) at IISc. He joined IISc in 2011 as an Assistant Professor. Before that, he was a Research Associate at Imperial College London and an Alexander-von-Humboldt fellow at WIAS Berlin. He received his PhD in 2006 from Otto-von-Guericke University, Germany.

Ganesan is also the Founder of Zenteiq Edtech Private Limited, a deep-tech start-up, incubated at the Society for Innovation and Development (SID), IISc. He has held various positions at IISc, such as Chair of the Department of CDS since February 2018, Chair

of the Programme Curriculum Committee for MTech (Data Science & Business Analytics) since November 2020, Programme Coordinator for the Advanced Programme in Computational Data Science since July 2020, and Programme Co-Coordinator for the PG Level Advanced Certification Programme in AI and MLOps since October 2022. He has been a Faculty Associate at the National Mathematics Initiative, IISc since July 2011.

His research group, Scientific Machine Learning & Operations (STARS), focuses on finite element analysis, scientific machine learning, data-driven science, and high-performance computing.

C Pandu Rangan

Kotak Mahindra Bank's Chair Visiting Professor



Chandrasekaran Pandu Rangan obtained his Master's degree in Mathematics from the University of Madras, Chennai and Doctorate degree from the Indian Institute of Science, Bengaluru. He joined the faculty of Computer Science and Engineering at

the IIT Madras in 1982. He has served as a distinguished Visiting Professor at the Information and Communications University, Deajon, South Korea. He joined the rank of Professors in 1995 and served as Head of Department from 1998-2001.

He was a member of the founding team for IIT Hyderabad (IITH) and served as Inaugural Chair to set up the computer science department at IITH (2008–2011). He has upgraded the unit of the Indian Statistical Institute (ISI) in Chennai to a Centre and served as Inaugural Chair for the ISI, Chennai Centre. He is a Fellow of the Indian National Academy of Engineering (INAE) from 2006. He was honoured as Venky Harinarayan and Anand Rajaraman Chair Professor in 2017. He served at IITM until his retirement and superannuated in 2021. Since August 2021, he served at IISc, in the Department of Computer Science and Automation as Sathish Dhawan Visiting Chair Professor.

Pandu Rangan also served in the Board of Directors of the International Association of Cryptology Research (IACR), USA and in the Board of Directors of the Society for Electronic Transactions and Security (SETS), Chennai. He was also on the editorial board of the Lecture Notes in Computer Science (LNCS)

series published by Springer Verlag, Germany. He has developed special outreach programme-related lecture series and customised competency building lecture series at TCS, INFOSYS, IBM Research, Tokyo, Japan, SAMSUNG R&D, Seoul, South Korea.

During his forty year-long academic life, he has taken special interest in promoting undergraduate research and many of his mentee are in top positions in academia and industry. He has pioneered the research in multiparty computation in India and emerged as the fourth most prolific researcher in the world among the ACM PODC community around 2015 (and first in India). Recently, just before his retirement from IITM, he has initiated the research in blockchain technology at the Department of Computer Science & Engineering, IITM. His areas of interest include technology enhanced learning, algorithms, cryptology, discrete mathematics, puzzle based learning, and algorithmic thinking.

Viraj Kumar

Kotak Mahindra Bank's Visiting Faculty for Instructing BTechs



Viraj Kumar is a Visiting Professor at KIAC. He completed his PhD (2007) in computer science and later taught at the University of Illinois at Urbana-Champaign, where he was awarded the Rose Award for Excellence in Undergraduate Education (2011).

Viraj Kumar's primary research areas are in educational technology and computer science education, with emphasis on India-specific challenges. He serves as an elected member of the Association for Computing Machinery (ACM) India Council (2021–24) and chairs its Educational Initiatives Committee.

He has contributed to the development of the revised All India Council for Technical Education (AICTE) computer science curriculum (2022) as well as the international CS2023 curriculum. Previously, he served as a consultant to the Kasturirangan Committee for

drafting the National Education Policy (NEP 2020), and to the Ministry of Education's committee creating the National Curricular Frameworks.

At KIAC, Viraj experiments with novel forms of assessment in undergraduate and postgraduate courses. At present, his work explores responses to advances in machine learning-assisted code generation techniques such as GitHub Copilot. He also conducts outreach programmes for training high school mathematics teachers and computer science faculty. For schoolteachers, his recent efforts include integrating computational thinking into IISc's training programmes at Challakere.

For faculty, he contributes as a Steering Committee member and course lead in Indraprastha Institute of Information Technology (IIIT) Delhi's CSEDU Programme, and also offers shorter-duration training programmes at IISc.

Sudha Aithal

Secretary



Sudha is a skilled professional with expertise in using Office 365 tools and possesses strong administrative skills. She has a proven track record of organising successful conferences and has extensive experience in dealing with government machinery.

Sudha's strategic planning abilities are complemented by her excellent communication skills, enabling her to develop and execute effective plans.

Sudha's additional skills include a senior-grade qualification in typewriting and proficiency in using various technical tools such as Mathtype, X circuit diagrams, Tina-TI9, Calibre tool, and Moodle.

She holds a BSc degree in Physics, Chemistry, and Mathematics and an MA degree in Sanskrit, demonstrating her diverse educational background and intellectual capacity.

Neetha Ashtakar

Systems Administrator



Neetha has completed her graduation in BE (Computer Science and Engineering) and MTech (Information Technology). She started working at the Centre for Infrastructure, Sustainable Transportation and Urban Planning (CiSTUP) at IISc as system administrator. She has also worked as Associate Manager (IT) at Bangalore Stock Exchange (BgSE).

She has been working as Senior Project

Associate in the MTech (AI) Lab at IISc for the past year.

In her current role, she is responsible for the overall infrastructure setup and maintenance of the Lab, including GPU servers. Neetha ensures maximum utilisation of the servers by adapting new technologies. She also provides decision support to stakeholders while taking key decisions for the continuous improvement of the Lab.

Geethanjali Monto

Senior Editorial Assistant



Geethanjali is Senior Editorial Assistant at KIAC. She takes care of communication and publicity for the Centre, including content generation for the KIAC website, social media, and reports, communication with delegates. She also helps in organisation of the Centre's activities.

Before joining KIAC, she worked in the same position at the Division of Electrical, Electronics, and Computer Sciences at IISc. Prior to that, she worked as a Consultant Editor with IndiaBioscience, Bengaluru; a freelance editor for the Office of Communications (IISc); Department of Mathematics, Delhi University; Central Food Technological Research Institute,

Mysuru. She has also written for Traffic InfraTech, Saevus, and The Green Ogre. Geethanjali was S. Ramaseshan Science Writing Fellow at the Current Science Association (Bengaluru), Project Associate at the Centre for Environment Education (CEE), Bengaluru, and Project Associate at the Indian Institute of Technology Madras.

She completed her BTech in Civil Engineering from IITM, PG Diploma in Mass Communication from Bharatiya Vidya Bhavan's Harilal Bhagawati College of Communication & Management, Bengaluru and distance learning programme in Environment and Development Communication from CEE.

Key achievements at KIAC

In keeping with the Centre's objectives, the following initiatives were undertaken, activities planned and executed, and workshops supported during January–March 2023. The setting up of an undergraduate instructional lab has also commenced.

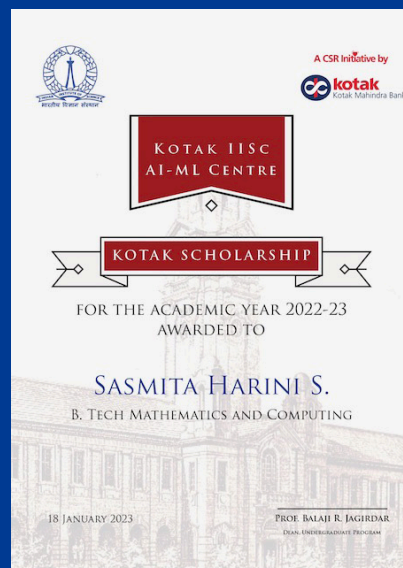
Student Support

Kotak scholarship

The Kotak Scholarship is awarded to the woman student with the highest JEE Advanced Rank joining the undergraduate BTech (Mathematics and Computing) programme at IISc.

The members of the standing selection

committee to decide on scholarship awards selected Ms Sasmita Harini S for the award in the academic year 2022–23. Sasmita received the scholarship certificate from Shri Prakash Apte (Chairman (Non-Executive), KMBL) on 18 January 2023.



Research support for PhD students

The Research Support for IISc PhD students includes a 100% top up fellowship from KIAC. The procedure that was followed to choose the eligible students is as follows.

Nominations were invited from IISc faculty members for students who had not completed five years of PhD, who were currently not availing any PhD fellowship other than that from IISc, and who had published at least one paper in the indicated fora (AAAI, IJCAI, CVPR, ECCV, ICCV, ICLR, ICML, Neurips, KDD, ACL, EMNLP, NAACL, SIGIR, WWW) between 1 January–31 December 2022.



Students were selected by the Convenor and Co-Convenor based on the above criteria. In the first round, Aditya Subramanian (PhD Engineering, Department of Computer Science and Automation, IISc) was selected. A No Objection letter has been obtained from the Academic Section of IISc.

Empower programme

The Empower programme was envisioned by KIAC to 'empower' students from the categories Women, Economically Weaker Section, Other Backward Class, Scheduled Caste, and Scheduled Tribe. The financial support can be used for research activities of the student in the broad field of artificial intelligence.

Nominations were invited from IISc faculty members for students fulfilling

the following criteria - (a) who are registered PhD students of IISc; (b) who have not completed five years of PhD; (c) who belong to any of the following categories: Women, Economically Weaker Section, Other Backward Class, Scheduled Caste, and Scheduled Tribe.

Students were selected by the Convenor and Co-Convenor based on the above criteria. In the first round, the following students were selected.

Student	Department
Ghanshyam Chandra	CDS
Sumedh Awathare	EE
Apoorva Dinesh Singh	CDS
Thivin Anandh	CDS
Ananya Sharma	EE
Atasi Panda	CSA
Ketan Sanjay Chaudhari	ESE
Apurva Dahake	ESE
Gajbhiye Gargi Jayant	CDS
Bharati Khanijo	CDS
Ajay Kumar Sandula	RBCCPS

Setting up instructional laboratories

KIAC UG Instructional Lab

An undergraduate Instructional Lab is being set up. An initial procurement of 19 systems has been completed.

Organising talks and events

Kotak IISc AI-ML talk series

A series of talks are being organised, wherein experts from around the world are invited to speak on their research work and also the state-of-the-art in their respective fields of expertise. The talks are arranged especially for the benefit of research students at IISc.

First talk by Nitin Sawhney

Professor of Practice

Department of Computer Science
Aalto University School of Science.

'Civic Agency in AI: Rethinking Responsible
Practices & Critical Discourses in Finland & the E.U.'

5 January 2023



Abstract

The public sector is increasingly embracing algorithmic decision-making and data-centric infrastructures to improve digital services in areas such as education, healthcare, and urban mobility.

Some AI-based systems are being used by governments for biometric surveillance, criminal justice, and other forms of citizen monitoring, which pose higher risks for abuse and unfair incrimination if they are not made easily transparent, accountable, or their legitimate use challenged by civil society.

With regulations like the AI Act and the AI Liability Directive emerging in

the EU, organisations must comply with complex ethical and regulatory frameworks.

In their research, Sawhney's group is exploring novel AI-based innovations, regulations, and practices, particularly the role of integrative software frameworks (MLOps and RegOps) and regulatory AI sandboxes, to facilitate experimentation, co-learning, and responsible deployment throughout the AI lifecycle.

They are also examining wide-ranging public discourses around AI, using a mix of qualitative methods and Natural Language Processing (NLP), both among actors who influence its

development and the public affected by it. Linguistic devices such as metaphors, metonymy, and personification reveal how we conceptualise, narrate, contest, or attribute agency to AI systems. Sawhney's research can demonstrate how language affects attitudes, influences practices and policies, and shapes future imaginaries

around AI. How must we reframe such narratives while fostering greater human responsibility and civic agency in AI systems, to make them more trustworthy, inclusive, and accountable in the future? His talk drew on critical transdisciplinary perspectives and applied research in the Finnish and European context.

Second talk by Mykel J Kochenderfer
 Associate Professor of Aeronautics and
 Astronautics at Stanford University
 Director of the Stanford Intelligent Systems
 Laboratory (SISL)
**'Automated Decision Making for Safety Critical
 Applications'**
 16 January 2023



Abstract

Building robust decision-making systems for autonomous systems is challenging. Decisions must be made based on imperfect information about the environment and with uncertainty about how the environment will evolve.

In addition, these systems must carefully balance safety with other considerations, such as operational efficiency. Typically, the space of edge cases is vast, placing a large burden on

human designers to anticipate problem scenarios and develop ways to resolve them. Kochenderfer's talk discussed major challenges associated with ensuring computational tractability and establishing trust that their systems will behave correctly when deployed in the real world. He outlined some methodologies for addressing these challenges and pointed to some research applications that can serve as inspiration for building safer systems.

Events

A variety of events are being organised, utilising various modes of interaction such as panel discussion, to encourage debates and discussions among peer groups and to highlight the work of experts in various fields related to artificial intelligence.

Discussing The Man from the Future 23 January 2023

A discussion was organised on John von Neumann and his work in computation, artificial intelligence and algorithms, foundations of game theory and mathematics. Different fields including economics, computer science, mathematics, neuroscience, and physics bear the fingerprints of von Neumann, and his work has applications in statistical mechanics, decision theory, and the theory of learning.

Many aspects of von Neumann's personality and contributions emerged during the discussion. The panellists included Ananyo Bhattacharya, author of *The Man from the Future: The Visionary Life of Jon von Neumann*, Kalyan Bidhan Sinha, Honorary

Professor at the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Vijay Chandru, Adjunct Professor at the Centre for Biosystems Science & Engineering (BSSE), IISc and Adviser at the AI & Robotics Technology Park (ARTPARK), IISc, and T E S Raghavan, Professor Emeritus at the University of Illinois, Chicago (UIC).

The session was moderated by Rajesh Sundaresan, Dean, Division of Electrical, Electronics, and Computer Sciences (EECS), IISc. K Vijayraghavan, Professor at the National Centre for Biological Sciences (NCBS) and former Principal Scientific Adviser for the Government of India, graced the occasion as the Guest of Honour. The event was arranged jointly with ARTPARK, IISc.



Organising training sessions and courses

Course on Practical NLP in the Age of LLMs

February - March 2023

A course on practical natural language processing (NLP) was conceived and taught for the benefit of MTech students of IISc, from the Artificial Intelligence programme, Centre for Computational and Data Sciences, and Centre for Computer Science and Automation. The instructors were Monojit Choudhury (from Microsoft Turing), and Kabir Ahuja and Harshita Diddee (from Microsoft Research).



The course gave students an accelerated understanding of building practical engineering NLP systems. demonstrate the development of these systems under data constraints typically seen in low-resource languages and specific domains, and also give a brief

overview on utilising the developed models in user-facing applications like ChatBots. By demonstrating concepts of practical use through widely adopted frameworks like HuggingFace and PyTorch, the course illustrated the end-

end functioning of language models, particularly neural machine translation systems. Six classes, each of 3 hours duration, were scheduled between February to March 2023, as indicated in the next

page. During the last class, the students presented their projects. A hands-on approach was adopted to

Course summary

Class 1: 24th February

Lecture: Foundation of translation: evolution of MT, noisy channel model

Lab activity: Units of a translation system: tokenizer, encoder–decoder models, prompting strategies

Class 2: 3rd March

Lecture: Evaluating and training LLMs (human versus automatic evaluation, behavioural testing of NLP models)

Lab activity: Evaluating translation models; training of MT models: focus on finetuning pretrained models

Class 3: 10th March

Lecture: Language resources: linguistic topology, properties of NLP corpora

Lab activity: Techniques for adapting LLMs to low-resource domains: alignment for generating parallel data (use of NLU models), back-translation, script conversion, and lexicon-adaptation; brief overview of quantisation and knowledge distillation of LLMs

Class 4: 17th March

Lecture: Detailed overview of transformers as encoders and decoders (attention, positional encoding, sampling strategies)

Lab activity: Building a ChatBot, augmenting ChatBots with multilingual capabilities

Class 5: 25th March

Lecture: Reinforcement learning from human feedback; responsible AI

Lab activity: Code walkthrough of auto-regressive decoding in generative as well as Seq2Seq models; limitations of LLMs (fairness, prompt-sensitivity, context limitations)

Class 6: 31st March

Team presentations

Organising workshops

KIAC has supported four workshops so far. The nature of support ranged from financial assistance to complete organisation.

Health Data Platform workshop

13-14 March 2023

Organisers: Prof Debnath Pal (IISc), Dr Harpreet Singh (ICMR), Prof Rajesh Sundaresan (IISc), Prof Vijay Chandru (IISc)

Number of participants: 25



Artificial Intelligence has shown significant promise in improving access to, and effectiveness of, medical imaging in screenings and diagnostics to assist healthcare professionals. The organisers of the 'Health Data Platform' workshop believe that a system that provides purpose-appropriate access to modern, synchronised and standardised training and validation datasets of the Indian population can bridge the efficacy gap, unlock new discoveries, and realise the potential of AI in medical imaging to improve patient/clinical outcomes.

To achieve these objectives, they convened a workshop during 13–14 March with AI researchers, clinicians, start-ups, medical imaging professionals, bioethicists, and other interdisciplinary experts to develop a shared understanding of the state of research, validation frameworks, policy development, and the role of Gold Standard medical imaging datasets to advance tuberculosis and diabetic retinopathy screenings; and to create a network of practitioners to articulate key questions, identify priorities, and facilitate meaningful collaborations.

Experts from nine research institutions and three industries participated in the workshop.

- Indian Council of Medical Research, New Delhi
- Indian Institute of Science, Bengaluru
- National Health Authority, New Delhi
- National Institute of Research in Tuberculosis, Chennai
- National Institute of Mental Health and Neurosciences, Bengaluru
- Post Graduate Institute of Medical Education and Research, Chandigarh
- Aravind Eye Hospital, Madurai
- Sankara Nethralaya, Chennai
- Indraprastha Institute of Information & Technology, New Delhi
- ARTPARK, Bengaluru
- KHPT, Bengaluru
- InnoWave Technologies, Chennai

Industry-Academic Partnership to Drive FinTech Innovation

16 March 2023

Organisers: Prof Sashi Jain (IISc), Prof Chiranjib Bhattacharyya (IISc), Prof Sashikumaar Ganesan (IISc)

Number of participants: 19

A roundtable discussion on 'Industry–Academic Partnership to Drive FinTech Innovation' was organised by the Kotak IISc AI-ML Centre.

The aim of the discussion was to

enhance cooperation between IISc and the FinTech industry, with particular emphasis on collaborative research in the areas of artificial intelligence, machine learning, and quantitative finance, in order to promote innovation



within the financial technology (FinTech) sector. This is in accordance with one of the objectives of KIAC – the development of rigorous AI/ML-driven solutions to Fintech problems, in collaboration with industry and research laboratories. These solutions could then be hosted as open source or lead to deep tech start-up launches in the AI-Fintech space. Delegates

from institutions including Ernst & Young Global Limited, Talent Sprint, Fidelity Investments, NatWest Group India, Wells Fargo, State Street Global Advisors India Private Limited, and Indian Institute of Science were present for the discussion.

A request for follow-up meetings with focussed objectives was raised.

Instructional School on AI and ML for Researchers

23-25 March 2023

Organisers: Prof Viraj Kumar (IISc), Prof Sashikumaar Ganesan (IISc)

Number of participants: 49



An Instructional School was organised for research scholars and research advisors who are unfamiliar with artificial intelligence and machine learning but are nevertheless keen to understand how they can leverage these technologies in their research.

The sessions included lectures, supplemented with hands-on sessions. While some familiarity with programming would have been helpful, it was not required (a session on using Chat GPT/Copilot for writing code was included).

The School covered the basics of data pre-processing, supervised

and unsupervised learning, neural networks, deep learning, reinforcement learning, and ethical considerations.

It also showcased examples of research work leveraging AI and ML and included a discussion on future trends and best practices.

The participants included junior and senior research students, post-doctoral fellows, and faculty from various colleges in Karnataka and Tamil Nadu, from different departments such as mechanical engineering, electronics and communications engineering, civil engineering, and computer science and engineering.

Indo-German conference on Computational Mathematics (IGCM 2023)

27-30 March 2023

Organisers: Prof Sashikumar Ganesan (IISc), Prof Peter Bastian (University of Heidelberg, Germany)

Number of participants: 80



The purpose of this Indo-German conference was to provide an interdisciplinary platform for researchers to present and discuss

the most recent innovations, trends, and the challenges in frontier areas of computational mathematics. IGCM 2023 aimed to foster interactions

among the scientific computing and machine learning research communities and to provide a platform to present and discuss challenges and opportunities in combining process and data-driven modelling.

The conference topics included numerical analysis of partial differential equations (PDEs) and stochastic PDEs, physics-informed neural networks, efficient and robust numerical schemes for solving complex problems, optimal control and inverse problems, scalable parallel algorithms and hardware-aware scientific computing.

The speakers were from India and Germany. The participants included undergraduate, graduate, and doctoral students, post-doctoral fellows, and faculty from a variety of disciplines ranging from mathematics to computer science to engineering.

They came from various institutes and companies such as Vellore Institute of Technology, Chennai; Shell Technology Centre, Bengaluru; Mahindra University École Centrale School of Engineering, Hyderabad; Max Planck Institute for Polymer Research, Mainz; and Heidelberg University, Heidelberg.

Summary of activities

SI No	Category	Activities
1	KIAC office set-up	<p>Identification of office location and getting it ready for work; procurement of required items (such as desktops, printer, furniture)</p> <p>Recruitment of faculty and staff</p> <p>Inauguration ceremony</p>
2	Student support	<p>Kotak scholarship</p> <p>Research support for IISc PhD students</p> <p>Empower Programme</p>
3	Setting up instructional laboratories	KIAC UG Instructional Lab
4	Organising talks and events	<p>Kotak IISc AI-ML talk series</p> <p>Panel discussion: Discussing The Man from the Future</p>
5	Organising training sessions and courses	A Very Short Course on Practical NLP in the Age of LLMs
6	Organising workshops	<p>Health Data Platform workshop</p> <p>Industry-Academic Partnership to Drive FinTech Innovation</p> <p>Instructional School on AI and ML for Researchers</p> <p>Indo-German conference on Computational Mathematics</p>

A CSR Initiative by



For more details visit <https://kiac.iisc.ac.in/>

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