



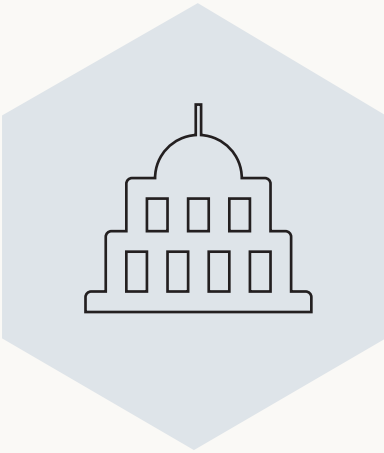
DAKSH Centre of Excellence for Law and Technology

Annual Report 2022

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Foreword

Technology and analytics have been a great enabler, helping both enterprises and employees communicate and collaborate as they navigate the new normal of a pandemic world. Digital transformation is sweeping across industries, cutting across both traditional and non-digital sectors as organisations leverage new-age technologies to enhance productivity and ensure higher operational efficiency. One such field where technology can be a gamechanger is law. The Indian judicial system, in particular is overburdened with pending court cases, straining the country's judicial system. India now has more than 4 crore pending cases across the Supreme Court, various high courts, and numerous district and subordinate courts as per data from the National Judicial Data Grid (as of 13 January 2022).

The need to harness the power of technology and analytics to solve the problems of the judicial system is undeniable. The idea of the DAKSH Centre of Excellence (CoE) for Law and Technology at IIT Delhi was born of this need. The CoE was established through an MoU signed on 9 October 2020 between the Indian Institute of Technology (IIT) Delhi and DAKSH, Bengaluru. The CoE will conduct interdisciplinary research to explore

and understand various aspects of the law and justice system.

We launched our first report on *User Experience and User Interaction Evaluation of Indian High Court Websites* which evaluated the UI/UX of six High Court websites on various design and usability parameters. A few exciting projects are underway at the CoE, including one examining cheque-bounce cases in district courts, developing a simulation for court and case flow management, and designing a prototype of an AI-based legal tool to help navigate consumer grievance redressal/dispute resolution. We are also curating a first-of-its-kind book that delves into the state of play of technology and analytics in law and justice.

The CoE is building a community of practice of people committed to judicial reforms. We curate conversations with this community so that our ideas and work do not remain in the ivory towers of academia. Prof. Daniel Martin Katz gave a talk that delved into the intersection between law and technology, and solutions that could be built to address the most pressing problems in the law and justice system.

We participated in a first-of-its-kind faculty workshop with IIT-D to initiate the process to identify common themes of interest to collaborate on.

I would like to thank our patrons and board of advisors for their steadfast support and encouragement. I am especially grateful to the project teams who have always stepped up to new challenges and delivered innovative work. I would also extend my thanks to our philanthropic partner, Infosys Foundation for their support. Here's hoping that 2022 brings more opportunities for impact.

We look forward to your support and hope to connect with you more closely on our work.

Warm regards,

Prof. Nomesh Bolia

Member Secretary and CoE Coordinator



Structure & Organisation



Board of Advisors



Prof. V. Ramgopal Rao

Chairman
Director, IIT Delhi

Prof. V. Ramgopal Rao is the Director of IIT Delhi. Before joining IIT Delhi as Director in April 2016, Dr. Rao served as a P. K. Kelkar Chair Professor for Nanotechnology in the Department of Electrical Engineering and as the Chief Investigator for the Centre of Excellence in Nanoelectronics project at IIT Bombay.



Harish Narasappa

Co-Chairman
Co-Founder, DAKSH

Harish Narasappa is the co-founder of DAKSH. He is a lawyer by training and a founding partner in Samvad Partners. He is also the co-founder of ADReS Now and has authored 'Rule of Law in India: A Quest for Reason'.



Prof. Sunil Kumar Khare

Member
Dean (R&D), IIT Delhi

Prof. Sunil Kumar Khare is the Dean (Research and Development) at IIT Delhi and holds the position of a Professor of Biochemistry and Institute Chair Professor at IIT Delhi. An alumnus of IIT Delhi, he received his doctoral degree in Biochemistry in 1990, post which he did his postdoctoral research at the National Food Research Institute, Tsukuba, Japan.



Prof. Nomesh Bolia

Member Secretary & CoE Coordinator,
Professor, IIT Delhi

Prof. Nomesh Bolia is a professor in the Department of Mechanical Engineering at IIT Delhi. He holds a degree in B-Tech from IIT Bombay and a Ph.D. in Operations Research from the University of North Carolina, Chapel Hill. He also has two years of work experience at Infotech Financials Pvt Ltd, Mumbai and Tata Institute of Fundamental Research, Mumbai.



Prof. MP Gupta

Member
Professor, IIT Delhi

Prof. MP Gupta is a professor in the Department of Management Studies, IIT Delhi. A pioneer in the area of e-governance, he continues to spend significant resources in developing cases, tools, and frameworks to promote e-governance research in the country. Mr. Gupta has co-authored 'Government Online', has edited the books 'Towards E-government' & 'Promise of E-governance', and has published 200+ research papers that have appeared in national and international journals/conference proceedings



Prof. SG Deshmukh

Member
Head (Mech. Engg), IIT Delhi

Prof. SG Deshmukh is a professor of Mechanical Engineering at IIT Delhi. He has worked on several projects sponsored by the Department of Science and Technology, and the Department of Information Technology, Government of India. He has consulted with industry leaders such as ACC, Bharti Telecom, Indian Oil Corporation (IOC), India Today Publications, and Nucleus Software.



Surya Prakash BS

Member
Programme Director, DAKSH

Surya Prakash BS is a Fellow and Programme Director at DAKSH. He is a chartered accountant and lawyer with more than 14 years of experience in handling the tax functions of large global IT companies.



Dr. KP Krishnan

Honorary Research Professor
Centre for Policy Research

Dr. K.P. Krishnan is currently the Investor Education and Protection Fund chair professor in regulatory economics, at the National Council for Applied Economic Research (NCAER). He is an IAS officer of the 1983 batch and was Secretary, Ministry of Skill Development and Entrepreneurship, Government of India on superannuation.



Ashwin Mahesh

**Founder & CEO,
Mapunity**

Ashwin Mahesh was a research faculty at NASA Goddard Earth Science and Technology Centre in the USA. He was also an adjunct faculty member at the International Institute of Information Technology, Bangalore, and Urban Research Strategist at the Office of Urban Affairs for the Karnataka government.

Affiliated Faculty, IIT Delhi



Prof. Ankush Agarwal

Economics & Econometric Modeling

Ankush Agrawal is an Associate Professor of Economics at the Department of Humanities and Social Sciences, IIT Delhi. His research interests include applied econometrics, development economics, and India's official statistics.



Prof. Shaurya Shriyam

Network Science & Bayesian Inference

Shaurya Shriyam is an assistant professor in the Department of Mechanical Engineering at IIT Delhi. His research interests lie in the application areas (robotics, logistics, healthcare, urban transport) of planning, inference, and learning algorithms aimed at social or industrial automation.



Prof. Mausam

Natural Language Processing & Reinforcement Learning

Prof. Mausam is the first head of the School of Artificial Intelligence at IIT Delhi. His research explores several threads in artificial intelligence, including scaling probabilistic planning algorithms, large-scale information extraction over the Web, and enabling complex computation over crowdsourced platforms.



Prof. Varun Ramamohan

Simulation & Optimization & Probabilistic Modeling

Prof. Varun Ramamohan is an assistant professor in the Department of Mechanical Engineering at IIT Delhi. He holds a Ph.D. in Industrial Engineering from Purdue University. His research interests include probabilistic modeling, simulation, and optimization, with applications in health and biomedical systems engineering.

DAKSH Team



Harish Narasappa

Co-Founder DAKSH

Harish Narasappa is the co-founder of DAKSH. He is a lawyer by training and a founding partner in Samvad Partners. He is also the co-founder of ADReS Now and has authored 'Rule of Law in India: A Quest for Reason'.



Leah Verghese

Research Manager DAKSH

Leah Verghese is a lawyer and social scientist with wide-ranging work experience in corporations, nonprofits, and political campaigns across India. She is a graduate of Columbia University, US, and the National Law School of India University.



Surya Prakash BS

Programme Director
DAKSH

Surya Prakash BS is a Fellow and Programme Director at DAKSH. He is a chartered accountant and lawyer with more than 14 years of experience in handling the tax functions of large global IT companies.

Mentors



Dr. C.K. Mathews (IAS)

Dr. CK Mathew is a highly regarded retired public servant and academic. He was the former Chief Secretary, Govt. of Rajasthan, and served as a Visiting Professor at the Azim Premji University, Bangalore in the School of Public Policy, & was a visiting faculty in Governance and National Law University, Bangalore.



Rahul Matthan

Rahul Matthan is an attorney who specialises in technology, media, and telecommunications law in India. He is a partner at Trilegal, a law firm in Bangalore. He has worked with companies across all sectors of the industry from big telecom operators to ISPs, OSPs, and managed data service providers, and advised on matters ranging from regulatory matters to ongoing business issues relating to the rollout of operations.



Prof. Daniel Martin Katz

Professor Katz is a scientist, technologist, and professor who uses an innovative polytechnic approach to teaching to create lawyers who can tackle the biggest societal challenges of today. Professor Katz teaches Practice & Professionalism, E-Discovery, Legal Analytics, Blockchain + Cryptocurrency & Law, Introduction to Legal Technology & Innovation, Legal Project Management + Legal Process Improvement and Civil Procedure at Chicago-Kent. He also spearheads new initiatives to teach law students how to leverage technology and entrepreneurship in their legal careers.



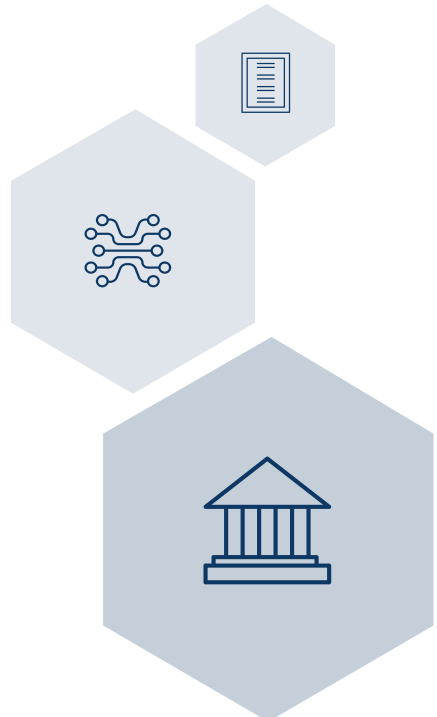
Dr. Roland Vogl

Dr. Roland Vogl is a scholar, lawyer, and entrepreneur who after more than fifteen years of academic and professional experience has developed strong expertise in legal informatics, intellectual property law, and innovation. He focuses his efforts on the legal informatics work carried out in the Center for Legal Informatics (CodeX), which he co-founded and leads as an Executive Director.



Vikramjit Banerjee

Vikramjit Banerjee is an Additional Solicitor General of India. He was appointed as Nagaland's Advocate General in June 2015 and was designated a Senior Advocate by the Gauhati High Court in December 2016. He graduated from the National Law School of India University, Bengaluru in 1997 and completed his Master of Law (LLM) from the University of Leicester, UK in 2000.



Our Centre of Excellence



The DAKSH Centre of Excellence (CoE) for Law and Technology at IIT Delhi was established on 9 October 2020 through a memorandum of understanding (MoU) between the Indian Institute of Technology (IIT) Delhi and DAKSH, Bengaluru. A Centre of Excellence is a team, shared facility, or entity that provides leadership, best practices, research, support, and training for a particular focus area. As an interdisciplinary centre harnessing the strengths and experience of IIT Delhi and DAKSH, we leverage rigorous research to generate a real-world impact on the functioning of the law and justice system. While IIT Delhi brings its expertise in statistical techniques, data modeling, natural language processing, and machine learning, DAKSH offers its groundbreaking use

of data analytics to assist the judiciary and create a deep understanding of judicial processes and the legal system.

We conduct interdisciplinary research which explores and understands various aspects of the law and justice system by collaborating with lawyers, researchers, scientists, and policy analysts from fields such as operations research, data analytics, technology and analytics, and law to create solutions that alleviate some of the biggest challenges that plague the law and justice system.

The establishment of the Centre of Excellence was covered by NDTV, Indian Express, Education Times, and Jagran Josh.

What We Believe



GENERATING NEW KNOWLEDGE

Our mission is to generate new knowledge that supports the law and justice system in delivering timely and quality justice by being a driving force in catalyzing the usage of data and technology for justice delivery.

BUILDING MODELS

Our collaborative work with various stakeholders in the law and justice system, industry, and academia aims to create a community of practice by employing cutting-edge technology to build models and tools to improve judicial administration.

COMMUNITY OF PRACTICE

We strive to uphold the highest

standards of integrity in all our projects by maintaining neutrality and offering a forum for meaningful and productive discussions among persons with differing viewpoints. We also aim to facilitate productive dialogue between institutional stakeholders, industry, and academia by using data to study the challenges in the law and justice system.



What We Do

To solve the deep-rooted problems in the Indian law and justice system, consistent, rigorous, and holistic research is key. Harnessing the strengths of DAKSH and IIT Delhi, the CoE examines these issues using the highest levels of academic rigor and data-driven methods. This research is translated into action tools and solutions that leverage technology and analytics and solve real-world problems of the law and justice system. Our research and outreach program aims to build a community of practice that is committed to tackling the law and justice system's biggest problems and is engaged in improving access to justice by organising guest lectures, roundtables, and conferences to disseminate its work and engage with others in the field.

The judiciary is getting rapidly digitised, and interdisciplinary research on various aspects of judicial functioning goes a long way in aiding such endeavors. In May 2021 the Centre of Excellence organized a talk by Prof. Daniel Katz, Professor at Chicago Kent College on [Modelling the Law and Justice System](#). He discussed the intersection between law and technology, and solutions that could be built to address the most pressing problems in the law and justice system. Our coordinator led a first-of-its-kind

joint faculty [workshop](#) between IIT-D and NLU-D in May 2021 to brainstorm and initiate the process to identify common themes of interest for both institutions to collaborate and work on. In addition, the CoE has interacted with key stakeholders from the judiciary, including retired and sitting judges of different high courts and Supreme Court and representatives from State and Union Governments to deliberate on pressing problems that affect the overall system to identify themes and areas it needs to work on.

One of the first projects of the CoE was an evaluation of six High Court websites. The project was motivated by an understanding that a well-designed UI/UX is crucial for public institutions' websites to simplify access to information for citizens they are serving. Its importance is amplified for court websites that need to ensure justice access to a wide spectrum of users. In August 2021, the CoE released a report on [User Experience and User Interaction Evaluation of Indian High Court Websites](#). The report was launched with a panel discussion with S. Ravindra Bhat - Hon'ble Justice (Supreme Court of India), Prof. Aneesha Sharma - Associate Professor Department of Design, IIT Delhi moderated by Surya Prakash BS of DAKSH. The CoE studied the user interface and user experience of the

Ongoing Projects

Our ongoing projects involve collaborations between legal experts, operations researchers, data analytics experts, judges, academics, and policymakers to objectively identify crisis areas, modes of interventions, and assess recommendations by leveraging technology and analytics to find solutions to problems plaguing the law and justice system.



Analysis of cheque-bounce cases

This project examines cheque-bounce cases in district courts to understand the volume of such cases, their duration, the time taken at various stages of the cases, and the causes for delay. This project will contribute to the growing literature demonstrating the use of quantitative approaches in solving systemic problems in the law and justice system.

Using data mined from the text of orders/judgments and provided by e-courts, the project aims to construct a predictive model that will estimate the duration of a cheque bounce case based on its characteristics. This econometric model, when paired with court-level data aggregates on the volumes of cases and the prevalence of issues, will provide a solid foundation to objectively assess recommendations that are generally made to solve this issue and identify other interventions for efficiency gains.



To examine cheque-bouncing cases in Indian district courts and High Courts to understand who the litigating parties are, the duration of the cases, the time taken at various stages of the cases, and the causes for delay. With this study, we analyze data with a focus on reducing pendency in cheque-bouncing cases. This study has demonstrated systemic cheque bouncing problems with cheque bouncing cases data addressing dynamic characteristics. This project has assessed and suggested the statistical analysis relevant to estimating the cost associated with delay (to the concerned stakeholders). I am excited to lead such an interdisciplinary project.



Principal Investigator
Prof. J. Madaan

Department of Management Studies

simulation modeling

The core challenge the courts face in India, and globally, is the delay in court proceedings and backlogs that pile up in the system. This project looks to develop simulation models for court and case management. Using the five steps of Define, Measure, Analyze, Improve, and Control (DMAIC) data-improvement cycle, this project will study the status of court/case management in the Indian judicial context (with a focus on one High Court) to suggest improvements in throughputs and backlogs. The goal of this project is to use operations

research and data analytics to improve the functioning of courts by integrating conceptual, technological, informational, and behavioral aspects in case management.

The project will adopt a systems-based approach to develop innovative solutions that will improve the court system workflow. The team is consulting legal experts, operations researchers, data analytics experts, judges, and policymakers for this project.

“The current project is geared towards developing simulation models for the Indian judicial system and caseflow management in Indian courts. This



project has tremendous scope for the public good as it shall allow us not only to move closer to developing a digital twin for the Indian courts that helps us analyze the existent bottlenecks but also helps us quantify the amount of improvement that proposed changes to the court system can bring about. The most impactful aspect of this project shall be to deliver cogent, actionable, and viable suggestions to judicial policymakers. To the best of our knowledge, such approaches combining the skillsets of legal practitioners and engineering researchers are novel in the Indian context. This project brings together researchers and professionals from diverse domains and helps us build a technological framework that hopefully improves the delivery of legal services provided to citizens of India. Such interdisciplinary projects shall help us bring technological innovations and digitization benefits closer to the Indian courts”



Principal Investigator Prof. Shauriya Shriyam

Department of Mechanical Engineering

Sahay: An AI-based legal assistant for common people

Using a multidisciplinary approach, the CoE is designing a prototype of an AI-based legal assistance tool to help laypersons navigate consumer grievance redressal/dispute resolution. The tool would help people understand legal rights under specific circumstances, and the options they

may have to seek legal relief in case of infringements on such rights. The tool will also suggest the nature of such rights, as well as prior cases in response to a person's description of a situation in natural text format (obtained through a conversational chatbot). As case documents are difficult for laypersons to follow, relevant cases would also be summarized. In addition, a prediction of the probable outcome of the case and its likely duration is also planned.



"My research interests have always been driven by the eventual social impact and building the tool Sahay directly aligns with my goal. I hope that Sahay when operational, can help a lot of people looking for legal advice, especially with matters related to consumer grievances, and that would be the ultimate achievement from the whole exercise. This project is highly interdisciplinary where computing technologies complement the knowledge of legal doctrines to provide respite to common people."



Principal Investigator
Prof. Abhijnan Chakraborty

Department of Computer Science



Curated volume on technology and analytics for law and justice

We are curating a first-of-its-kind book in India on the state of play of technology in the law and justice system. The book will feature research on how advancements in technology are impacting the practice of law and policy in India. It will cover a wide range of issues focused around the use of technology in making the law and justice system more efficient, legal practice more productive, justice more accessible to the citizens, and discussion around whether and how such technology and analytics should be regulated and financed.

The book presents a state-of-the-art overview of current research and future thinking in the field of law, technology, and analytics. It will be of interest to a wide audience including tech companies, government agencies, law firms, legal practitioners, academics, or any student requiring a head-start in the world of modernising the law and justice system

The first authors' roundtable discussion featuring some of the finest thinkers in India in this area was held on December 2, 2021. The CoE presented a landscape study of the technology firms and services for delivery of legal, judicial, and civic services in India. The study laid out the growth trends in the legal-tech industry and mapped products and services across the public and private sectors in India. The convening featured discussions on building, regulating, and financing digital public infrastructure in the country and issues of privacy and surveillance concerning the use of technology. The discussion included an overview of legal-tech solutions at law firms and those provided by start-ups. Contracts, legal education, dispute resolution, court performance, and law enforcement were other broad themes covered across sessions.

The roundtable agenda and list of participants can be found [here](#)

Testimonials



“The DAKSH Centre of Excellence for Law and Technology is a pioneering and one of the most exciting new centres of excellence at IIT Delhi. This CoE has shown inspiring progress in its first year of establishment. We have ambitious plans for this centre which will harness DAKSH’s domain knowledge of the law and justice ecosystem and IIT Delhi’s expertise in Operations Research-Analytics and technology.”



Prof. V Ramgopal Rao,
Director, IIT-Delhi



“It is important we involved in court administration should realize the full potential of the court websites and one of the methods should be this kind of reports. This can lead to the involvement of a larger general public. Ultimately people who are getting the benefits are the users of these court websites. From a service angle we are the service providers, and they are the service recipients, and it is important to involve them and on that note, this kind of report is very important. I congratulate the team for this report and wish all the best for future endeavors of IIT Delhi in collaboration with DAKSH,”



Justice S Ravindra Bhat
on the launch of UI/UX report

What We Plan to Do

Apart from these activities, the CoE wants to actively forge long-term strategic partnerships with the judiciary and the government. We are also planning on offering certification courses for working professionals and students in the field of law, technology, and analytics. This would help in positioning the Centre of Excellence as an important stakeholder as it builds solutions that address pressing

problems in the law and justice space and establishes its system as an exemplary one globally.

We welcome students, researchers, and subject matter experts, among others explore our courses and invite them to collaborate on our ongoing and forthcoming projects. For more details, please visit our website daksh-lawtech-iitd.org.



In the Media

Our various initiatives over the past year have been covered by national media including mainstream and sector-specific outlets. This includes publications and news blogs such as [Dainik Jagran](#), [Indian Express](#), [Education Times](#), [Times of India](#), [NDTV](#), and [The Leaflet](#) among others.

DAKSH Society and IIT Delhi sign agreement for Centre of Excellence for Law and Technology

DAKSH Society, Bengaluru and the Indian Institute of Technology Delhi (IIT Delhi) have signed an agreement to establish the 'DAKSH Centre of Excellence (CoE) for Law and Technology. Check details here.

SHERIN TRESSA TOMY

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MODIFIED ON: OCT 16, 2020 10:09 IST



Campus Calling > College Life > IIT Delhi to have Centre of Excellence for Law and ...

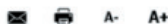
IIT Delhi to have Centre of Excellence for Law and Technology to promote research in these fields

TNN | Posted on Friday, October 16, 2020 12:46

THIS STORY IS FROM JULY 13, 2021

How technology can be leveraged for India's judiciary

Rajlakhmi Ghosh | TNN | Jul 13, 2021, 16:18 IST



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IIT-Delhi to set up Centre of Excellence for Law and Technology

Along with space and all infrastructural facilities, IIT-Delhi will provide scientific and technical expertise and extensive research facilities to the CoE at par with the Institute's academic activities, it added.

 **The Indian EXPRESS**

THE LEAFLET

Law and Technology

IIT-D's DAKSH Centre of Excellence for Law & Tech using tech tools and data research to improve legal justice delivery in India

Four projects launched in last one year to improve caseflow management, build AI-based legal assistant, study cheque bounce cases, conduct UI/UX evaluation of high court websites

Advertisement

Home > Education > IIT Delhi Centre Releases Report On Analysis, Usability, Functionality Of 6 High Court Websites

IIT Delhi Centre Releases Report On Analysis, Usability, Functionality Of 6 High Court Websites

The IIT Delhi report includes an analysis and suggestions for different aspects of the usability and functionality of the High Court websites of Bombay, Calcutta, Delhi, Karnataka, Madhya Pradesh and Madras.

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