

Dr. Sachin Kumar

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About Me

Dr. Sachin Kumar is Assistant Professor of Computer Science at Cluster Innovation Centre (CIC), University of Delhi(UoD), Delhi, India. He has been awarded his PhD degree from the Department of Computer Science, University of Delhi. His thesis primarily focuses on the development of models for optimization and prediction of energy usage to improve energy conservation in the residential and commercial buildings to achieve the goal of sustainable cities and societies. He has completed his post graduation in master of computer applications(MCA) from the Department of Computer Sciences, UoD. He has served as a software development engineer with IHS market information mosaic, united kingdom(UK) where he designed and developed software products and services using latest technologies in the finance, securities and share market domain. Further, as an assistant professor, he has taught and offered courses in computer science at constituent institutions of UoD. Currently, he is teaching courses and supervising research in the area of Artificial Intelligence, Urban Computing, Information Systems and Computational Social Science. He has published his research work in various SCI/SCIE/Scopus indexed journals and conferences. He has participated and presented research works at several international and national conferences and seminars. He is invited as a resource person in many conferences, faculty development programmes(FDPs) and workshops to share his knowledge and expertise. His main thrust is to develop technological artifacts to solve societal problems, and their deployment in real world environment. With this vision, he has been continuously providing his consultations to startups and corporations. He is also promoting interdisciplinary research, innovation and entrepreneurship at CIC, through project driven pedagogy, research publication outputs and startup promotion.

Education

Doctor of Philosophy(PhD)

Energy Smart Buildings

University of Delhi, Delhi

Dept. of Computer Science

Master of Computer Applications(MCA)

University of Delhi, Delhi

Dept. of Computer Science

B.Sc(PCM)

Chaudhary Charan Singh University, Uttar Pradesh

Meerut College Meerut

Career Profile - Appointments

Cluster Innovation Centre, University of Delhi

Assistant Professor

Delhi

Jul 2015 – Till present

- Teaching information technology courses at CIC.
- Developing new research, products, processes or commercial applications.
- Collaboration with industry/academia.
- Conducting substantial research into complex problems, ideas, concepts or theories.
- Applying appropriate tools and methodologies for solving societal problems.
- Presenting research and giving invited talks at national and international conferences.
- Mentoring students for research, entrepreneurship and innovation.
- Conceptualising, designing, and producing academic resources.

The University of Delhi, Delhi

Delhi

Assistant Professor

Jul 2012 – Jul 2015

- Taught computer science courses at different institutions of University of Delhi.
- Developed and implemented innovative pedagogy.
- Introduced professional logistics to improvise student performance.
- Mentored students in research projects and product developments.
- Conducted workshops on latest technologies for students for their career-enhancement.
- Participated in departmental and college activities.
- Served and supported functional activities of departmental committees.
- Organized academic events and conferences in the institutions.

IHS Markit Information Mosaic

UK

Software Development Engineer

Aug 2011 – Jul 2012

- Worked on end-to-end automation of corporate actions and income processing.
- Designed and developed change requests(CRs) for new functionality.
- Designed and developed GUI, Security and Business layer with Public Key Infrastructure(PKI).
- Technologies: GWT/GXT, Hibernate, JavaScript, Spring, Servlets, JSON.

IHS Markit Information Mosaic

UK

Software Engineer Intern

Jan 2011 – Jul 2011

- Designed and developed key modules from front to back end functionality.
- Designed and developed GUI of the application using GWT/GXT.
- Designed and developed functionality for the application using asynchronous call
- Implemented PKI for user and transaction authentication.
- Technologies: GWT/GXT, Hibernate, JavaScript, Spring, Servlets, JSON and Oracle10g.

Online Courses/Short Term Courses

Summer Institute of Computational Social Sciences

MIT, Duke, Princeton Uni..

Social Network, Fake News, Disinformation

June 14-June 24, 2021

Computational Social Sciences

University of California, Coursera

Computational Social Sciences

Doing, 2020

Faculty Development Programme

Ramanujan College, University of Delhi

Open Source Tools for Research

Jun 7-Jun 15, 2020

Faculty Development Programme

Ramanujan College, University of Delhi

Managing online classes and co-creating MOOCs

May 18-Jun 03, 2020

Faculty Development Programme

Ramanujan College, University of Delhi

Dimensions of Literature, Media, Psychology and Commerce

May 29-Jun 3, 2020

Faculty Development Programme

Ramanujan College, University of Delhi

Learning Outcome Based Framework

10 Feb- 11 Feb, 2020

Refresher Course

HRDC, Jawaharlal Nehru University, Delhi

Computer Science and Information Technology

Sep 16-Sep 28, 2019

Orientation Programme
Research Methodology

CPDHE, University of Delhi, Delhi
Oct 9-Nov 6, 2018

Faculty Development Programme
Machine Learning and Deep Learning

Indira Gandhi DTU for Women, Delhi
July 16-July 20, 2018

The Data Scientist's Toolbox
Jeff Leek, PhD

Coursera, Johns Hopkins University, USA
2014

Technology Commercialization
Mark Wilson

University of Rochester, USA
2014

Innovation for Entrepreneurs: From Idea to Marketplace
Thomas J. Mierzwa

Maryland Uni., USA
2014

Academic Projects

Post Quantum Cryptography

Dr. Saibal K. Pal

- Study and assessment of information security in the quantum computing.
- Developed and implemented approaches for robust secure transmission.
- Presented and published the research work.

Universal Student Profile

Prof. Punam Bedi

- Designed and developed a software product for managing complete information about students.
- Product ensured efficient document verification, overcoming document loss and forgery.
- Product ensured cost reduction, environment-friendliness and sustainability.
- Accepted for poster presentation with title **A New Sustainable Prototype USP for Education Information System**, *6th World Renewable Energy Technology Congress and Expo*, UNESCO, Ministry of new and Renewable Energy, Ministry of Earth Science, 2015.

Data mining on DUCC Data

Dr. Jyotsana Telreja Wassan

- Designed and implemented data mining techniques on Data of web URLs.
- Classified the URLs and identified their association with attributes.
- Implemented aprioriry algorithm and K-means clustering algorithm in C/C++.

Design and Update of FTP Patch

Mr. P. K. Hazra

- Developed a patch for Linux platform for File Transfer Protocol(FTP).
- Implemented concurrency in socket and pipes.

IPV6 Module Implementation

Dr. Saibal K. Pal

- Designed and developed patch for new Internet protocol IPV6.
- Patch introduced the new security and encryption features for Quantum Computing Environment.

ICT Based System to Improve PDS

Dr. Saibal K. Pal

- Devised a solution for Public Distribution System(PDS) to reduce leakages and improve efficiency.
- Introduced real time status update for stakeholders and tracking of PDS material such as LPG, Kerosene, Food grains etc.

Linux OS Concurrency Patch Development

Prof. Vasudha Bhatnagar

- Developed a new concurrency module using concurrency control.
- Designed and developed an extra layer over Semaphore, Mutex and Shared Memory Segment.

File System Development for Windows: NTFS and FAT 32

Dr. Saibal K. Pal

- Designed and developed a new file management system for Linux based on hierarchical DS.
- File system proposed new methodology of file management with efficiency and security.

SAAS Cloud Authentication Add On

Dr. Saibal K. Pal

- Developed cloud-based software to provide SAAS services.
- Developed APIs for end users for In-house software and storage services.

ML based Public Policy Framework

Dr. Saibal K. Pal

- Designed a data-driven machine learning public policy framework with big e-governance data.
- Framework decentralized the data collection, processing and prediction.
- Framework provided macro and micro decision based on data-driven insights.
- Published in *Quality, IT and Business Operations*, Springer, 2017.

Lamport Signature Module for SSL

Dr Saibal K. Pal

- Developed and modified Lamport signatures to secure one-way function
- Developed signature using NTRU Approach.

Novel Encryption Scheme based on NTRU Demonstration

Dr. Saibal K. Pal

- Developed a more secure and efficient encryption algorithm based on the NTRU cryptographic scheme.
- NTRU is lattice-based scheme which is resistant to attack in quantum computing.

Intelligent Grading System

Dr. Saibal K. Pal

- Designed a system to automate the grading and evaluation of student's written essays.
- Developed machine learning solution.

Skills

- **Coursework Skills:** Philosophy of Programming, Programming Fundamentals and Paradigm, Operating Systems, Data Structures and Algorithms, Natural Language Processing, Linear Algebra, Computer Networks, Databases, Information Security, Combinatorial Optimization, Abstract Algebra, Discrete Mathematics, Advanced Calculus, Numerical Methods, Language Design and Compilers, Artificial Intelligence, Intelligent Systems, Software Project Management, Big Data Analytics, E-Governance, Information Systems, Evidence Driven Public Policy, Energy and Buildings, Urban Computing, Innovation Management, Computer Vision, Computational Social Sciences, Research Methodology and Research Tools.
- **Programming Languages and Associated Technologies:** C, C++, PHP, Java, Python, HTML/CSS, Java Script, JDBC, JUnit.
- **Web Apps Frameworks:** GWT/GXT, Maven, Spring.
- **AI Frameworks:** Scikit-learn, TensorFlow, Microsoft CNTK, Keras.
- **Big Data Frameworks:** Hadoop.
- **Software Development:** Hands on execution of RAD, Spiral, Agile-XP, TDD and Scrum.
- **Conceptual Understanding:** Text Understanding, Classification, Regression, Time Series Forecasting, Pattern Recognition, Recommendation systems, Ranking Systems, e-Governance Systems.
- **Quantitative methods:** Cluster analysis, Correlation and association, Multivariate Regression analysis, Descriptive analysis, Exploratory analysis, Inferential analysis, Predictive analysis, Survey research.
- **Mentoring:** Entrepreneurship, Innovation projects, Start-ups, Research projects, Consultancy.
- **Analytical Skills:** Critical thinking, Data analysis, Problem-solving.
- **Language Skills:** Hindi, English and dialects.

Administrative Assignments

- **Convener**, Computer and Website Committee, CIC, 2021-2022.
- **Member**, News Letter, Annual Report, CIC, 2020-2021.
- **Member**, Website Committee, CIC, 2020-2021.
- **Member**, Infrastructure and Space Committee, CIC, 2020-2021.
- **Member**, Organizing Committee, MHRD Institutional Innovation Cell, University of Delhi, 2019-2020.
- **Member**, Website Committee, CIC, 2019-2020.
- **Member**, Infrastructure and Space Committee, CIC, 2019-2020.
- **Member**, Organizing Committee, MHRD Institutional Innovation Cell, University of Delhi, 2018-2019.
- **Convener**, Website Committee, CIC, 2018-2019.
- **Member**, Academic Committee, CIC, 2018-2019.
- **Member**, Infrastructure and Space committee, CIC, 2018-2019.
- **Member**, Exam Committee, CIC, May 2018-2019.
- **Convener**, Website Committee, CIC, 2017-2018.
- **Member**, Academic committee, CIC, 2017-2018.
- **Member**, Infrastructure and Space committee, CIC, 2017-2018.
- **Member**, Exam Committee, CIC, May 2017-2018.
- **Member**, News Letter, Annual Report, Website Committee, CIC, 2015-2016.
- **Member**, Grievance Committee, CIC, 2015-2016
- **Member**, Exam Committee, CIC, May 2015-2016.
- **Member**, Website Advisory Committee, University of Delhi.
- **Member**, Exam Committee, CIC, May 2015-2016.
- **Member**, Semester Long Project Monitoring, CIC, 2015-2016
- **Member**, Panel for 'Selection for BA (H) Humanities and Social Science Course', CIC, 2015-2016.

Events Organization: Conferences/Workshops/Seminars

- **Member, Organising Committee**, National Seminar on *Innovation and Opportunities in Marine Bio-resources Biotechnology*, organised by Cluster Innovation Centre and Marine Biotechnology Laboratory, Department of Botany, University of Delhi, Delhi, India, 21st August, 2021.
- **Member, Programme Committee**, International Conference on *Quality Reliability Infocom Technology and Business Operations*, University of Delhi, Delhi, India, 2021.
- **Member, Programme Committee**, International Conference on *Quality Reliability Infocom Technology and Business Operations*, University of Delhi, Delhi, India, 27th Dec-29th Dec, 2018.
- **Member, Organizing Committee**, International Conference on *Quality Reliability Infocom Technology and Business Operations*, University of Delhi, Delhi, India, 27th Dec-29th Dec, 2015.
- **Student, Volunteer**, 10th International Conference on *Cryptology(Indocrypt)*, Organized by Scientific Analysis Group (SAG) and Delhi University under the aegis of Cryptology Research Society of India (CRSI), India, 2009.

Workshop/Conference Achievements and Awards

- **Jury Member**, *International Conference on Future Challenges and Sustainable Development Goals: Science to Policy Framework*, Shaheed Bhagat Singh College, University of Delhi, Delhi, India. 16th to 18th April, 2021.
- **Session Chair**, *Network Communication, International Conference on Recent Trends in Engineering, Technology and Business Management (ICRTETBM 2019)*, Amity International Business School, Amity University, Noida, UP, India, 20th to 22nd Feb, 2019.
- **Session Chair**, *Artificial Intelligence II, International Conference on Quality Reliability Infocom Technology and Business Operations(ICQRIT)*, University of Delhi, Delhi, India, 27th to 29th Dec, 2018.
- **Session Chair**, *Modelling and Optimization, International Conference on Quality Reliability Infocom Technology and Business Operations(ICQRIT)*, University of Delhi, Delhi, India, 27th to 29th Dec, 2018.

Areas of Interest / Specialization

- **Artificial Intelligence:** Computer Vision, NLP, Developing applications for solution of real world problem.
- **Urban Computing :** Smart Transportation, Smart Buildings and Cities.
- **Computational Social Systems :** Human Networks and Interactions, Digital Inequality and Bias, Digital Sociology, Fake News and Hate Speech.
- **Information Technology Systems :** E-governance, Intelligent Governance, Management Information Systems.
- **Design and Innovation :** IT Applications, Business processes, Analytics, Product conceptualizations, Start Up and Consultancy.
- **Public Policy:** Evidence Based Policy, Policy Research, Innovation, Entrepreneurship and Skill Development.

Courses Taught

- Fall-2021: Programming Fundamental
- Fall-2021: Computer and Brain: Knowledge Discovery and Artificial Intelligence
- Spring-2021: Programming Fundamental
- Spring-2021: Optimizing memory use through Data Structure and Design
- Fall-2020: Programming Fundamental
- Fall-2020: Data Communication and Computer Networks
- Spring-2020: Software Engineering
- Spring-2020: Optimizing memory use through Data Structure and Design
- Fall-2019: Programming Fundamental
- Fall-2019: Data Communication and Computer Networks
- Spring-2019: Software Engineering
- Fall-2018: Software Project Management
- Fall-2018: Optimizing memory use through Data Structure and Design
- Fall-2018: Data Communication and Computer Networks
- Spring-2018: ICT in Mathematics
- Spring-2018: Software Engineering
- Fall-2017: Software Project Management
- Fall-2017: Optimizing memory use through Data Structure and Design
- Fall-2017: Data Communication and Computer Networks
- Spring-2017: Handling Information through Data Modeling and Design
- Spring-2017: Advanced Algorithm Design
- Spring-2017: Software Engineering
- Fall-2016: Optimizing memory use through Data Structure and Design
- Fall-2016: Data Communication and Computer Networks
- Spring-2016: Handling Information through Data Modeling and Design
- Spring-2016: Advanced Algorithm Design
- Spring-2016: Software Engineering
- Fall-2015: History, culture and civilization
- Fall-2015: Programming Fundamentals
- Fall-2015: Optimizing memory use through Data Structure and Design

Awards and Achievements

- **Research Travel Grant**, *The International Conference on Extreme Learning Machines (ELM2016)* Marina Bay Sands, Singapore, 13rd to 15th Dec, 2016.
- **Faculty Start Up Grant**, University of Delhi, 2015
- Selected for **Ph.D. in Information Technology and Systems - Indian Institute of Management(IIM) Rohtak**.
- Awarded **UGC NET-JRF**, 2012, 2014.
- Placement offers from several MNCs, IHS Markit Information Mosaic, Global Logic, Aricent etc.
- Won 1st prize in **Mind Matters** in tech fest Sankalan.
- Won 2nd prize in Vinculum conducted by IP College for Women Delhi University.
- Won 2nd prize in C/C++ Coding Event Sprint in Sankalan.
- Secured 20th AIR in Delhi University MCA Entrance Examination.
- Secured 14th AIR, in Hyderabad Central University(HCU), Master of Computer Applications Common Entrance Test.
- Secured 27th AIR, in Banaras Hindu University(BHU) Master of Computer Applications Common Entrance Test.
- Secured 91st AIR, in National Institute of Technology Master of Computer Applications Common Entrance Test(NIMCET).
- Secured 7th AIR, **Joint Admission Test for M.Sc.(JAM)** for Mathematics Entrance Exam conducted by IITs.
- **Graduation Topper Scholarship**, awarded by Meerut College Alumni Delhi.
- University Graduation Scholarship, 2005
- Secured 2nd place in District in **Bhartiya Sanskriti Gyan Priksha**, 2004
- Secured 3rd place in District in **Bhartiya Pratibha Sammaan Samaroha**, 2003

Research Projects

- **Principal Investigator**, Faculty Research Programme Grant, *Analysis and Determination of Influence of Users on Social Media Platforms Using Machine Learning* funded by Delhi University, 2021-2022.
- **Co-Principal Investigator**, Innovation Project, *Weaving Dreams for Destitute – Night Shelters* funded by Delhi University, 2015-2016.

Publications

Sachin Kumar. A Critical and Ethical Perceptive on Governance and Policies during COVID-19 Pandemic in India. *Digital Government: Research and Practice*, 2021, Association for Computing Machinery(ACM), <https://doi.org/10.1145/3501032>.

Sachin Kumar, Aditya Sharma, Kartheek B Reddy, Sachan Shreyas, Vaibhav Jain, and Jagvinder Singh. An Intelligent Model Based on Integrated Inverse Document Frequency and Multinomial Naive Bayes for Current Affairs News Categorisation. *International Journal of System Assurance Engineering and Management*, 2021, Springer, <https://doi.org/10.1007/s13198-021-01471-7>.

Sachin Kumar, Zairu Nisha, Saibal K Pal, Jagvinder Singh, and Ompal Singh. Insights and Reflections from Data Analytics Approach of COVID-19 Situation among Indian States and Ethical Considerations. *International Journal of System Assurance Engineering and Management*, 2021, Springer, <https://doi.org/10.1007/s13198-021-01153-4>.

Sachin Kumar. An Assessment of Research Process Management Software Usage in Indian Higher Education. In P. K. Kapur, Gurinder Singh, Yury S. Klochkov, and Uday Kumar, editors, *Decision Analytics Applications in Industry*, pages 409–419. Springer, Singapore, 2020.

Sachin Kumar Ompal Singh, Jagvinder Singh. Ensemble-Based Extreme Learning Machine

Model for Occupancy Detection with Ambient Attributes. *International Journal of System Assurance Engineering and Management*, Springer Nature, 11:1–11, 2020.

Sachin Kumar, Saibal K. Pal, and Rampal Singh. A Novel Hybrid Model Based on Particle Swarm Optimisation and Extreme Learning Machine for Short-Term Temperature Prediction Using Ambient Sensors. *Sustainable Cities and Society*, 49, 2019, IF-7.587, Elsevier.

Sachin Kumar, Saibal K. Pal, and Ram Pal Singh. Intra ELM Variants Ensemble Based Model to Predict Energy Performance in Residential Buildings. *Sustainable Energy, Grids and Networks*, 16:177–187, 2018, IF=3.899, Elsevier.

Sachin Kumar, Saibal K. Pal, and Ram Pal Singh. A Novel Method Based on Extreme Learning Machine to Predict Heating and Cooling Load through Design and Structural Attributes. *Energy and Buildings*, 176:275–286, 2018, IF= 5.879, Elsevier.

Sachin Kumar, Anushtha Kalia, and Arjun Sharma. Predictive Analysis of Alertness Related Features for Driver Drowsiness Detection. *Advances in Intelligent Systems and Computing*, 736:368–377, 2018, Springer.

Sachin Kumar, Saibal K. Pal, and Ram Pal Singh. A Conceptual Architectural Design for Intelligent Health Information System: Case Study on India. In P.K. Kapur, Uday Kumar, and Ajit Kumar Verma, editors, *Quality, IT and Business Operations: Modeling and Optimization*, pages 1–15. Springer Singapore, Singapore, 2018.

Sachin Kumar, Ram Pal Singh, and Saibal K. Pal. Machine Learning-Based Method and Its Performance Analysis for Occupancy Detection in Indoor Environment. *Advances in Signal Processing and Intelligent Recognition Systems*, 678:228–239, 2017, Springer.

Sachin Kumar, Ram Pal Singh, and Saibal K. Pal. From E-Governance to D-Governance. *CSI Communications: 0970-647x*, 40(2):32–34, 2016, Computer Society of India.

Sachin Kumar, Saibal K. Pal, and Ram Pal Singh. Intelligent Energy Conservation: Indoor Temperature Forecasting with Extreme Learning Machine. *Advances in Intelligent Systems and Computing*, 2:977–988, 2016, Springer.

Sachin Kumar, Saibal K. Pal, and Ram Pal Singh. ELM Variants Comparison on Applications of Time Series Data Forecasting. *International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, 4:1409–1414, 2016, IEEE Systems, Man, and Cybernetics Society.

Sachin Kumar and Saibal K Pal. A New Sustainable Prototype USP for Education Information System. *International Conference on Futuristic Trends on Computational Analysis and Knowledge Management (ABLAZE)*, 1:174–179, 2015, IEEE.

Sachin Kumar and Saibal K Pal. An Approach to Ensure Superior and Sustainable Software Development Performance. *International Conference on Computing for Sustainable Global Development (INDIACom)*, 2:115–117, 2014, IEEE.

Sachin Kumar and Saibal K Pal. Empirically Developed Integrated ICT Framework for PDS in Developing Countries. *Third World Congress on Information and Communication Technologies (WICT 2013)*, 3:234–239, 2013, IEEE.

Authored Books

- o **Sachin Kumar et al.** *Operating Systems: A Structured and Practical Approach*, Cengage Publication, 2021, Boston USA, In Press.

Invited Lectures/Talks

- **Digital Technologies, Biases and Gender Issues: Part 1**, *Refresher course on “Feminist Teaching Research in Higher Education: Theory and Practice”*, Teaching Learning Centre, Ramanujan College, the University Of Delhi under the aegis of Ministry Of Education initiative “Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching”, 29th July, 2021, https://www.youtube.com/watch?v=XJEKdRElnKQ&t=641s&ab_channel=RamanujanCollege.
- **Digital Technologies, Biases and Gender Issues: Part 2**, *Refresher course on “Feminist Teaching Research in Higher Education: Theory and Practice”*, Teaching Learning Centre, Ramanujan College, the University Of Delhi under the aegis of Ministry Of Education initiative “Pandit Madan Mohan Malaviya National Mission On Teachers And Teaching”, 29th July, 2021, https://www.youtube.com/watch?v=LbhnW4_Pfgk&ab_channel=RamanujanCollege.
- **Analysis of Research Management Tools and Hands-on Experience**, *Interdisciplinary Workshop on Research Management Tools*, SIES College of Arts, Science and Commerce, University of Mumbai, 7th June, 2021.
- **Handling and Processing Information for Permanent Storage in Programming.**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 3rd June, 2021.
- **Handling Set of Similar and Dissimilar Items and their Processing in Programming**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 2nd June, 2021.
- **Understanding Concepts of Functions, Pointers and Memory Addresses in Programming**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 1st June, 2021.
- **Deciding the Right Course of Action While Automating Real World Scenarios in Programming**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 31st May, 2021.
- **Concept of Iteration in Real World and their Implementation in Programming**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 29th May, 2021.
- **Programming Philosophy and Automating the Real World.**, *Value Added Courses on C and C++*, J C Bose University of Science and Technology, YMCA, Faridabad, Haryana, 28th May, 2021.
- **Exploring Idea of Research Project in Humanities**, *National Webinar on ‘Fostering Research Culture in Higher Education Institutes’*, SIES College of Arts, Science and Commerce, University of Mumbai, 17th April, 2021.
- **Analysing Research Management Tools in Indian Higher Education System**, *Faculty Development Programme on Philosophical Methods in Interdisciplinary Teaching*, Ramanujan College, University of Delhi, 30th March, 2021. https://www.youtube.com/watch?v=oxN8jv-N-gE&t=6s&ab_channel=RamanujanCollege .
- **Research Process Management: Concept, Implications and Future Directions**, *9th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions)(ICQRIT)*, Delhi, 27th to 29th Dec, 2018, Springer.
- **An Intelligent Health Information System for India**, *7th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions)(ICQRIT)*, Delhi, 27th to 29th Dec, 2018, Springer.
- **Post-Quantum Cryptography and Approaches**, *International Conference on Quality Reliability Infocom Technology and Industrial Technology Management*, Delhi, 2013.

Paper Presentation

- **Smart Home: Accurate Prediction of Energy Consumption with Extreme Learning Machine Variant**, The 7th International Conference on Extreme Learning Machines Marina Bay Sands, Singapore, 13th – 15th Dec, 2016, Springer.
- **Intelligent Energy Conservation: Indoor Temperature Forecasting with Extreme Learning Machine**, International Symposium on Intelligent Systems Technologies and Applications (ISTA'16), Jaipur, India, 21st–24th, Sep, 2016, Springer.
- **ELM Variants Comparison on Applications of Time Series Data Forecasting**, International Conference on Advances in Computing, Communications and Informatics (ICACCI), Jaipur, India, 21st–24th, Sep, 2016, IEEE.
- **Assessment and Prospects of Big Data Analytics in Public Policy in India**, 4th International Conference on Advanced Data Analysis, Business Analytics and Intelligence, Indian Institute of Management Ahmadabad(IIMA), 2015.
- **A Conceptual Architectural Design for Intelligent Health Information System: Case Study on India**, 7th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions(ICQRIT)), Delhi, 27th to 29th Dec, 2015, Springer.
- **A New Sustainable Prototype USP for Education Information System**, International Conference on Futuristic Trends on Computational Analysis and Knowledge Management Consortium in Association with the University of Northampton, U.K., Amity University, Greater Noida, 25th to 27th Feb, 2015, IEEE.
- **An Improved Post-Quantum Cryptographic Scheme Based on NTRU**, 6th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions(ICQRIT)), Delhi, 27th to 29th Dec, 2013, Springer.

Workshops Attended

- **Faculty Development Programme**, Deep Learning and Machine Learning, Department of Information technology, Indira Gandhi Technological University for Women, Delhi, 16th to 21st Jul, 2018.
- **International Workshop on Big Data Analytics (WBDA-2016)**, School of Computer and Systems Sciences, Jawaharlal Nehru University, Delhi, 30th March, 2016.
- **FICCI Technology Expo and Innovator - Investor Meet**, Dec-15, FICCI, Delhi.
- **International Workshop of Medical Imaging and Machine Learning(WMLMIA)**, Indian Institute of Technology(IITM), 24th to 28th June, 2015, sponsored by Science and Engineering Research Board (SERB), Council of Scientific Industrial Research (CSIR),
- **An Introduction to Splines with Statistical Applications**, 4th IIMA International Conference on Advanced Data Analysis, Business Analytics and Intelligence, IIM Ahmadabad, 2015.
- **Text Mining: Theory, Methods and Applications**, 4th IIMA International Conference on Advanced Data Analysis, Business Analytics and Intelligence, IIM Ahmadabad, 2015.
- **UGC-FCIT Workshop**, University of Delhi, 2014.
- **IndoCrypt2009**, Cytological Research Society of India , Indian National Science Academy Delhi, Dec, 2009.
- **IBM Research Symposium** by IBM Research Lab, Delhi, 2009.

Association with Professional Bodies

- **Member**, The Institute of Electrical and Electronics Engineers(IEEE).
- **Member**, Association for Computing Machinery(ACM).
- **Member**, Society for Reliability Engineering, Quality and Operations Management (Regd.).
- **Member, Panel, Software Technology Parks of India, Indian Ministry of Electronics and Information Technology**

Project Supervision

Gross Domestic Product Prediction Using Machine Learning
B.Tech(ITMI)-2020

Sahiljit
Semester Long

Ideological Classification of Stories using Deep Learning <i>B.Tech(ITMI)-2019</i>	Aditya et al. <i>Semester Long</i>
News Stories Analysis using Machine Learning <i>B.Tech(ITMI)-2019</i>	Shreyas, Karthik <i>Semester Long</i>
Assessment of Fake News in Indian Society <i>B.Tech(ITMI)-2019</i>	Vedant, Harshit <i>Semester Long</i>
Emotion Classification and Assessment <i>B.Tech(ITMI)-2018</i>	Sanjeev Dubey, Utkarsh Mittal <i>Semester Long</i>
SmartEnvironment: Energy Conservation <i>B.Tech(ITMI)-2018</i>	Vivek et al. <i>Semester Long</i>
Human Activity Recognition for Assisted Living <i>B.Tech(ITMI)-2018</i>	Chaitali, Lakshya <i>Semester Long</i>
Deep Learning for Health Informatics <i>B.Tech(ITMI)-2018</i>	Arjun Sharma, Anuthstha Kalia <i>Semester Long</i>
MOOCs Rating <i>B.Tech(ITMI)-2017</i>	Neeraj, Vishesh, Akshit <i>Semester Long</i>
Drowsy State Detection for Drivers <i>B.Tech(ITMI)-2017</i>	Arjun Sharma, Anuthstha Kalia <i>Semester Long</i>
Social Care <i>B.Tech(ITMI)-2016</i>	Utkarsh Anand, Mukul Yadav <i>Semester Long</i>
DU-Info <i>B.Tech(ITMI)-2015</i>	Sagar <i>Semester Long</i>

Media Coverage/Articles

- **Why smart cities need energy-efficient and sustainable buildings,** *Down to Earth*, 2021, Delhi, <https://www.downtoearth.org.in/blog/energy/why-smart-cities-need-energy-efficient-and-sustainable-buildings-79953>.
- **Digital India Needs to Address Fake News Challenges,** *The Policy Times*, 2021, Mumbai, <https://thepolicytimes.com/digital-india-needs-to-address-fake-news-challenges/>.
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Interest and Hobbies

- Interaction with people having diverse social, political, economical, technological, psychological and philosophical backgrounds.
- Visiting new places and knowing their culture and tradition, history, geography, technological progress, political system and local innovations .
- Discussions on philosophy, technology, social issues, development, governance, politics, policies and their implementations.
- Listening to music, traveling and food.

References

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