Dr. Monu Bhagat, Ph.D.

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Career Objective

To excel as an Assistant Professor by fostering quality education, conducting impactful research, and mentoring students in Computer Science and Engineering. I aim to contribute to academia through innovation, interdisciplinary collaboration, and industry engagement.

Employment History

May 2025 – Present	**Assistant Professor** Computer Science and Engineering Department, Birla Institute of Technology, Mesra, Ranchi-835215.
Nov 2024 – May 2025	**Chanakya Post Doctoral Fellow** Department of Artificial Intelligence & AI4ICPS Innovation Hub, **Indian Institute of Technology, Kharagpur**.
Sept 2023 – Oct 2024	**Assistant Professor** Computer Science & Engineering, Department of Computer Science & Engineering (IoT), Techno Main Salt Lake, Maulana Abul Kalam Azad University of Technology, West Bengal.
Jul 2022 – Aug 2023	**Assistant Professor** Computer & Communication Engineering Department, School of Computer & Communication Engineering, Manipal University Jaipur, Rajasthan-302007.
Jul 2020 – Jul 2022	**SRF** Full time Senior Research Fellow under MHRD fellowship in Computer Science & Engineering Department of National Institute of Technology Jamshedpur, Jharkhand, India.
Jul 2018 – Jul 2020	**JRF** Full time Junior Research Fellow under MHRD fellowship in Computer Science & Engineering Department of National Institute of Technology Jamshedpur, Jharkhand, India.

Education

2018 – 2022	**Ph.D., Computer Science and Engineering, National Institute of Technology Jamshedpur** with CGPA 9.0. Thesis title: *Feature Selection & Optimization in IoT based Smart Agriculture.* Date of Viva Voce: *April 08, 2024*
2015 – 2017	**M.Tech. Computer Science & Engineering, Maulana Abul Kalam Azad University of Technology** with CGPA 8.33. Thesis title: *Segmentation & Detection of Type of Tumor Using MRI Brain Image Via DWT, PCA, K-Means And KSVM.* College: *Kalyani Government Engineering College*
2010 – 2014	**B.Tech. Computer Science & Engineering, West Bengal University of Technology** with CGPA 8.25. Project title: *Social Networking Site U & Me using Asp.Net.*
2009 – 2010	**Higher Secondary, West Bengal Council of Higher Secondary Education** with 75.83% marks.

Education (continued)

2007 – 2008 **Secondary, West Bengal Board of Secondary Education** with 84.63% marks.

Project Grants

Title:	A Secure and Explainable Federated Learning-Based System for Remote Patient Monitoring in IoMT
Funding Agency:	Birla Institute of Technology Mesra, Ranchi, ISG Scheme
Role:	Principal Investigator (PI)
Amount:	Rs. 4,99,350/-
Duration:	2025–2027

Research Profile (Google Scholar)

- Number of Citations = 469
- H-index = 11
- i10-index = 11
- Number of Journals = 13
- Number of SCI/SCIE/Scopus/WoS Indexed Journals = 12
- Number of International Conferences(Scopus) = 07
- Number of Book Chapters = 01
- Number of Book Abstracts = 03
- Number Patents = 04

Research Publications

Peer Review International Journals (SCIE/Scopus/WoS):

[1] **M. Bhagat**, U. Maulik : Advancing Breast Cancer Prediction using Blockchain-Secured Hybrid Genetic Algorithm. **Computers in Biology and Medicine, Elsevier**, 2025 (Q_1) Impact Factor 7.7.

[2]**M. Bhagat**, U. Maulik :StaBloCare: Blockchain-Secured Diabetes Monitoring System using Stacked Deep Learning. **Biomedical Signal Processing and Control, Elsevier**, 2025 (Q_1) Impact Factor 4.9.

[3] **Monu Bhagat**, Dilip Kumar: Performance Evaluation of PCA based Reduced Features of Leaf Images Extracted by DWT using Random Forest and XGBoost Classifier. **Multimedia Tools & Applications**, 82(17), 26225-26254, (2023) (Q_2) Impact Factor 3.6.

[4] **Monu Bhagat**, Dilip Kumar: Stability analysis of mathematical model for spread of pest in tea plant by RKM-4 and ABM-2. **Journal of Difference Equations and Applications**, 29(2), 121-142, (2023) (Q_2) Impact Factor 1.1.

[5] **Monu Bhagat**, Dilip Kumar: A comprehensive survey on leaf disease identification & classification. **Multimedia Tools & Applications**, 81, 33897–33925, (2022) (Q_2) Impact Factor 3.6.

[6] **Monu Bhagat**, Dilip Kumar, Sunil Kumar: Bell pepper leaf disease classification with LBP and VGG-16 based fused features and RF classifier. **International Journal of Information Technology**, 15(1), 465-475, (2023)., (Q_4)

[7] **Monu Bhagat**, Dilip Kumar: Efficient feature selection using BoWs and SURF method for leaf disease identification. **Multimedia Tools & Applications**, 82(18), 28187-28211, (2023) (Q_2) Impact Factor 3.6.

[8] Aditya Gupta, **Monu Bhagat**, Vibha Jain: Blockchain-enabled healthcare monitoring system for early Monkeypox detection. **The Journal of Supercomputing**, 79(14), 15675-15699, (2023) (Q_2) Impact Factor 2.7.

[9] **Monu Bhagat**, Dilip Kumar: Performance enhancement of kernelized SVM with deep learning features for tea leaf disease prediction. **Multimedia Tools & Applications**, 83(13), 39117-39134, (2024) (Q_2) Impact Factor 3.6.

[10] Ajay Kumar, Aditya Gupta, Yadvendra Pratap Singh, **Monu Bhagat**: A Deep Neural Network for Classification of Land Use Satellite Datasets in Mining Environments. **Journal of Mining and Environment**, 15(1), 465-475, (2023)., (Q_3)

[11] **Monu Bhagat**, Dilip Kumar, Sunil Kumar: Optimized transfer learning approach for leaf disease classification in smart agriculture. **Multimedia Tools & Applications**, 83, 58103–58123, (2024) (Q_2) Impact Factor 3.6.

[12] **Monu Bhagat**, Aayush Sharma, Piyanshi Agarwal:An efficient stacking-based ensemble technique for early heart attack prediction. **Multimedia Tools & Applications**, 2024 (Q_2) Impact Factor 3.6.
[13]Mukesh Kumar, Sonu Jha, Dilip Kumar, **Monu Bhagat**: A Study on Visual Secret Sharing Scheme using Speech Recognition. **Technology & Management, Rabindranath Tagore University Journal Vol.**,IX/Issue XVII September 2019, ISSN: 2278-4187, DOI: 10.29070/AUJ-AN.

Patents:

[1] Portable diagnostic imaging device for early disease detection. **Design Office, Kolkata**, Patent Design Application No. 413545-001, June. 2024 (Granted).

[2] Futuristic ai-enhanced air purifier for next-generation indoor environmental solutions. **Design Office,U.K.**, U.K. Patent Design No. 6332516, Jan. 2024 (Granted).

[3] A cloud-based platform for crop recommendation for precision farming driven by artificial intelligence. **The Patent Office, , India**, Application No. 202341036565, Journal No. 35/2023 Dated 01/09/2023. (Published).

[4] An agricultural robotic system and method thereof. **The Patent Office, Kolkata**, Patent Application No. 202431040115, May, 2024 (Published)

International Conferences:

[1] **Monu Bhagat**, Deobrata Kumar, Dilip Kumar: Role of Internet of Things (IoT) in Smart Farming: A Brief Survey. **Devices for Integrated Circuit (DevIC), IEEE**, 141-145, (2019) (Published) (Scopus Indexed).

[2] Manisha Sharma, **Monu Bhagat**, Dilip Kumar: Ubiquitous and Emerging Concepts of Sensors. **Devices for Integrated Circuit (DevIC), IEEE**, 341-347, (2019) (Published) (Scopus Indexed).

[3] Sunil Kumar, Dilip Kumar, **Monu Bhagat**: Rapid and efficient medical image segmentation using thresholding and CLAHE with 3-level FCM clustering. **Proceedings of the international conference on advances in electronics, electrical computational intelligence (ICAEEC), Elsevier**, (2019) (Published) (Scopus Indexed).

[4] **Monu Bhagat**, Dilip Kumar, Isharul Haque, Hemant Singh Munda, Ravi Bhagat: Plant leaf disease classification using grid search based SVM. **International conference on data, engineering and applications (IDEA), IEEE**, 1-6, (2020) (Published) (Scopus Indexed).

[5] **Monu Bhagat**, Dilip Kumar, Rehan Mahmood, Bibhudhendra Pati, Monu Kumar: Bell pepper leaf disease classification using CNN. **International conference on data, engineering and applications (IDEA), IEEE**, 1-5, (2020) (Published) (Scopus Indexed).

[6] Sunil Kumar, **Monu Bhagat**: A Comparative Analysis of Cryptographic Algorithms in IoT Environment.**International Conference on IoT and Its Application (ICIA), Springer**, (2024) (Accepted) (Scopus Indexed).

[7] **Monu Bhagat**, Sunil Kumar: A Coherent Solution of dataset crisis using GAN based transfer learning approach for leaf image classification & Disease Prediction, **ISBM 2025 Bangkok Thailand, Springer**, (2025) (Accepted) (Scopus Indexed).

Book Chapter:

[1] **Bhagat, M.**, Kumar, D., Balgi, S.M. (2021). Application of Internet of Things in Digital Pedagogy. In: Deyasi, A., Mukherjee, S., Mukherjee, A., Bhattacharjee, A.K., Mondal, A. (eds) Computational Intelligence in Digital Pedagogy. Intelligent Systems Reference Library, vol 197. Springer, Singapore. https://doi.org/10.1007/978-981-15-8744-3_11.

Awards and Achievements

- 2010 Qualified West Bengal Joint Entrance Examination (WBJEE) conducted by West Bengal Joint
- Qualified All India Engineering Entrance Examination (AIEEE) conducted by MHRD.
- 2014 Got Placement in Capegemini, MNC.
- 2018 **Qualified**- GATE, UGC-NET, ASRB-NET.
- **Junior Research Fellow**, National Institute of Technology Jamshedpur.
- 2020 **Senior Research Fellow**, National Institute of Technology Jamshedpur.
- 2023 Qualified for the post of Assistant Professor (computer Science and Engineering) conducted by Chhattisgarh Swami Vivekananda Technical University (CSVTU), Bhilai, Durg, Chhattisgarh, India.
- 2024 **Academic Counsellor**, Indira Gandhi National Open University (IGNOU).
- **Chanakya Post Doctoral Fellowship**, Indian Institute of Technology Kharagpur.

Certification

- 2022 **Data Science Professional Certification** IBM with Coursera
- 2020 **Fundamentals of Deep Learning for Computer Vision** Awarded by NVIDIA Deep Learning Institute.
- **Fundamentals of Deep Learning for Multiple Data Types** Awarded by NVIDIA Deep Learning Institute.
- 2022 **Data Science for Engineers** Awarded by IIT Madras, NPTEL.
- **Accreditation and Outcome Based Learning** Awarded by IIT Kharagpur, NPTEL.
- 2024 **Explainable Artificial Intelligence (XAI) with Python Course Certification** from Udemy.

Subjects Taught

- Foundations of Data Science
- Programming with Python
- Web Technology
- Design & Analysis of Algorithm
- DBMS
- Operating System
- 'C' Language

Subjects Taught (continued)

- Data Structure & Algorithms
- Software Engineering
- Computer Organization & Architecture

Invited Lectures/External Examiner

- Resource Person during the online one-month student training program on **Data Science and Analytics** held by Department of Mathematics, **BIT Mesra** from 1st August 2020 to 31st August 2020.

- Resource Person during the online program on **Computer Vision** held by Department of Mathematics, **Institute of Mathematics & Applications**, Bhubaneswar, Odisha from 1st September 2020 to 30th September 2020.

- Delivered guest lecture on **Sensors & Vision Systems in Robots** held by Department of Department of Automation and Robotics at **Dr. D.Y. Patil Institute of Technology**, Pimpri, Pune on 19th April, 2025.

- Invited to serve as External examiner for the subject **Data structure and algorithm Lab** by the Department of Computer Science & Engineering (IoT), **Techno Main Salt Lake**, Kolkata, West Bengal, India on 18th January, 2025.

- Invited to serve as External Examiner for the **final year grand Viva** by the Department of Electronics and Instrumentation Engineering, **Techno Main Salt Lake**, Kolkata, West Bengal, India on 14 June 2025.

Workshop & FDP attended

- Recent Advances in Optimization Technique (24th – 28th Dec 2018) at IIT Guwahati.
- One-week faculty Development Program on **Network Security** from 20th -24th May-2019 at NIT Jamshedpur.
- **Deep Learning and Applications** from 27th -31st May-2019 at NIT Jamshedpur.
- Advancements in Signal Processing and Optimization Techniques from 3rd -7th Jun-2019 at NIT Jamshedpur.
- Two weeks FDP on Sensor Networks and IoT from 20th -29th Jun-2019 at IIT(ISM) Dhanbad.
- Deep Learning and its Application, Ministry of Electronics and Information Technology (MeitY), Government of India.
- Machine Learning for Computer Vision, Ministry of Electronics and Information Technology (MeitY), Government of India.
- Recent Advances in Machine Learning and its Application from 23rd – 27th June, 2020 organized by Amity Institute of Information Technology, Amity University Kolkata.
- Advanced Optimization Techniques and hands-on with MATLAB/SCILAB from 13 – 24 July, 2020 under the Ministry of Electronics and Information Technology (MeitY), Government of India.

Workshop & FDP attended (continued)

- Three days Workshop on MACHINE VISION 2020 held on 27-29 JULY 2020 through online mode organized by National Institute of Technology Jamshedpur.
- Research Challenges and Applications of Internet of Things (IoT) in Smart Agriculture from November 17 – November 22, 2020, organized by ALL INDIA COUNCIL FOR TECHNICAL EDUCATION.
- Introduction to Machine Learning from 21-06-2021 to 25-06-2021 organized by department of Computer Science & Engineering, Indira Gandhi Delhi Technical University for Women (IGDTUW), Delhi.
- Deep Learning and Communication Networks organized by department of Electronics & Communication Engineering, Bapatla Engineering College, Andhra Pradesh from 28th to 30th June 2021.
- Machine Learning with MATLAB organized by School of Foundation Sciences, Kumaraguru College of Technology, Coimbatore, conducted on 20th June 2022.
- Data Science for Engineers jointly organized by NPTEL-AICTE, funded by the MoE, Govt. of India (2022).
- Accreditation and Outcome Based Learning jointly organized by NPTEL-AICTE, funded by the MoE, Govt. of India (2023).
- Implications of Outcome Based Learning Pedagogy in Higher Education from 12-12-2022 to 16-12-2022 organized by Manipal University Jaipur, Rajasthan, India.
- MATLAB Programming Computer Aided Numerical Methods" from 17-04-2023 to 21-04-2023 organized by Manipal University Jaipur, Rajasthan, India.
- IoT Basics" from 24-04-2023 to 28-04-2023 organized by Manipal University Jaipur, Rajasthan, India in association with MUJ-TECH & NITTTR Chandigarh.
- One Week Hands-on workshop with Arduino and Rpi – An IoT Concept from 15-05-2023 to 19-05-2023 organized by Department of Mechatronics, Manipal University Jaipur, Rajasthan, India in association with MUJ-TECH.
- Blockchain Technology and Its Emerging Applications from July 4 to 8, 2023 organized by Uka Tarsadia University (UTU) and Central Institute of Technology, Kokrajhar (CITK).
- INDUSTRY 6.0 from 09-10-2023 to 16-10-2023 TECHNO MAIN SALT LAKE, in association with IETE, Kolkata Centre and CSI, Kolkata Chapter.
- Smart Contract Mastery: Pioneering the Future of Blockchain Applications from 06-05-2024 to 15-05-2024 organized by Department of CSE, NIT Warangal in association with E & ICT Academy, NIT Warangal Sponsored by Ministry of Electronics and Information Technology (MeitY), GoI.
- **BEST: Bootcamp on Embedded Security and Trust** from 10-02-2025 to 19-02-2025 organized by Department of Computer Science and Engineering of IIT Kharagpur under the Information Security Education Awareness (ISEA) Project, Ministry of Electronics and Information Technology (MeitY), Government of India.
- Online FDP on **AI and Deep Learning** from 01 – 23 Feb, 2025 jointly organized by the Electronics and ICT Academics at PDPM IIITDM Jabalpur, MNIT Jaipur, IIT Roorkee, NIT Patna and IIT Guwahati under the "Capacity Building and Skill Development Scheme" of Ministry of Electronics and Information Technology (MeitY), Government of India.
- Online FDP on **IoT Applications with Sensors, Embedded Systems, and Data Analytics** from 17-02-2025 to 28-02-2025 jointly organized by the Electronics and ICT Academics at PDPM IIITDM Jabalpur, MNIT Jaipur, IIT Roorkee, NIT Patna and IIT Guwahati under Ministry of Electronics and Information Technology (MeitY), Government of India.

Workshop & FDP attended (continued)

- Online FDP on **Quantum Technology & Applications** from February 28 – March 22, 2025 jointly organized by the Electronics and ICT Academics at PDPM IIITDM Jabalpur, MNIT Jaipur, IIT Roorkee, NIT Patna and IIT Guwahati endorsed by "DST - NQM/ AICTE/UGC" of Ministry of Electronics and Information Technology (MeitY), Government of India.
- Online one month course on **Quantum Technology** from 3rd-25th May, 2025 organized by **Centre for Development of Advance Computing, Hyderabad** & **Indian Institute of Technology, Roorkee** with the support of Ministry of Electronics and Information Technology (MeitY), Government of India.
- online Faculty Development Programme (FDP) on **Real Time Applications Using Large Language Models** from 19th–28th May, 2025 Organized by E & ICT Academy in association with Dept. of CSE, NIT Warangal and NIT Kurukshetra. (Sponsored by the Ministry of Electronics and Information Technology (MeitY), GOI.
- Online FDP on **Advancing Healthcare with Explainable AI: Empowering Educators and Practitioners** from 23rd-27th June, 2025 organized by Electronics and ICT Academy, **Indian Institute of Technology, Roorkee** in association with UPES, Dehradun.
- Online FDP on **Modern Computer Vision** from 8th-19th September, 2025 organized by Electronics and ICT Academy, **MNIT Jaipur**.

Mentor

- Supervised more than 25 B.Tech Students in Department of Computer Science & Engineering, NIT Jamshedpur, Manipal University Jaipur and Techno Main Salt Lake.

Professional Society Membership

- IEEE **(101437133, December, 2025)**
- ACM **(4163640 , July, 2026)**
- International Association of Engineers **(IAENG - 315141, Lifetime)**
- Internet Society **(IS- 2249610, Lifetime)**

Reviewer in Journal

- Transaction on Emerging Telecommunications Technologies, Wiley **(SCI/SCIE)**
- Journal of Plant Diseases and Protection, Springer **(SCI/SCIE)**
- Applied Intelligence, Springer **(SCI/SCIE)**
- The Journal of Supercomputing, Springer **(SCI/SCIE)**
- Computers and Electronics in Agriculture, Elsevier **(SCI/SCIE)**
- Circuits, Systems, and Signal Processing, Springer**(SCI/SCIE)**
- New Generation Computing **(SCI/SCIE)**
- Artificial Intelligence Review, Springer **(SCI/SCIE)**
- Multimedia Systems, Springer **(SCI/SCIE)**
- Scientific Reports, Springer **(SCI/SCIE)**
- Environmental Science and Pollution Research, Springer **(SCI/SCIE)**
- Cogent Engineering, Taylor & Francis**(SCI/SCIE)**
- Food Analytical Methods, Springer **(SCI/SCIE)**

Reviewer in Journal (continued)

- Systems and Soft Computing, Elsevier **(ESCI/Scopus)**
- Evolutionary Intelligence, Springer **(ESCI/WoS)**
- SN Computer Science, Springer **(Scopus)**
- Journal of Mining and Environment **(Scopus)**
- Journal of Data Science and Intelligent System **(Scopus)**
- Journal of Engineering, Hindawi **(Scopus)**

Editor in Journal

- International Journal of Applied Sciences & Engineering

Declaration

I hereby declare that the above information is true and accurately reflects my qualifications and experience.

Place: Kolkata

Date: 20/11/2025 **(Dr. Monu Bhagat)**