

# Curriculum vitae

## DR. UPENDRA KUMAR

Assistant Professor,  
Department of Computer Science & Engineering,  
Institute of Engineering & Technology,  
Lucknow, UP, India, Pin-226021  
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### Career objective:

To perform research and innovative work in the area of Computer Science and Biomedical Science utilizing the experience gained in the fields of Robotics and Embedded in C, Machine and Robot Vision, Pattern Recognition, Artificial Intelligence, Soft Computing, Machine Learning, Biomedical Signal Processing, Fractal and Chaos analysis, Medical Imaging, with an interest in further acquisition of knowledge and expertise in parallel.

### Research Interests:

Human Cognition inspired Models, Artificial Intelligence, Machine Learning and Deep Learning, Fractal and Chaos based Analysis, Image Processing, Biomedical Signal Processing, Soft Computing, Pattern Recognition, Robotics and Embedded in C, Machine Vision, Cyber Security, Steganography.

**Experience: 13<sup>+</sup> years** of Teaching and Research experience and **4 years** Industrial experience at TCS New Delhi. Taken duties and assignments like Teaching, Mentoring, Research Supervision, B.Tech and M.Tech. Project Guidance, Internship Coordinator.

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### Skill Sets:

- i) Computer Vision & Image Processing using OpenCV 2.4.3, Visual C++ 2010, Qt 4.8.1 with MinGW (UI Design), Matlab 7.0 [**worked with Knowlez flow, IIT Delhi and AITM Lucknow**]
- ii) JAVA/J2EE Technology (JSP, Servlet, Struts, Spring. Etc.) [**worked in TCS around 4 Years**]
- iii) Android Programming 4.1 (developed small mobile games and applications)
- iv) AVR Programming for robotics, AVR Studio 4, Atmel Atmega 8, Atmel Atmega16.
- v) Digital Image Processing and Signal Processing MATLAB Tool.

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### UGC-NET and GATE:

- i) Qualified (Two times) UGC-NET December 2014, June 2015
- ii) Qualified (Two times) GATE Feb 2006, Feb 2016.

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### Education:

- i) **Ph.D.** (Computer Science & Engineering) under supervision of **Dr. Tapobrata Lahiri, Professor, IIT Allahabad**, India in 2015 from AKTU Lucknow.
- ii) **M.Tech.(IT)** from the **Indian Institute of Information Technology, Allahabad**, First Honors, CGPI – 9.19/10.
- iii) **B.Tech(IT)** from Uttar Pradesh Technical University, Lucknow, India, First Honors, 75.6 %.
- iv) **Intermediate (10+2)** from G.I.C. Allahabad, India with First Division, 70.10 %
- v) **High School (10<sup>th</sup>)** from G.I.C. Allahabad, India with First Honors, 78.60 %

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**Total Teaching and Industrial Experience:** More than 16 years

**Industrial Experience:** 4 years in TCS New Delhi/Lucknow.

- Systems Engineer (Research and IT Development Division), **Tata Consultancy Services Limited**, India, for around four years.

**Teaching and Research Experience:** (12+ years)

- More than 12 years teaching and research experience in reputed institutes and University.
- Taught subjects Data Structures, Problem Solving using C, Theory of Automata, Design and Analysis of Algorithm, Artificial Intelligence, Machine Learning at B.Tech/MCA level and Pattern Recognition, Foundation of Machine Learning, Probability & Statistics and Data Science at M.Tech Level (**IET Lucknow and CAS, AKTU Lucknow both**).
- More than 12+ years research experience in Medical Image Analysis, Biomedical Signal Processing, Chaos and Fractal Analysis, Machine Learning, Deep Learning, Image Processing, Embedded in C, etc.
- Supervised post-graduate students (MCA and M.Tech.) for their dissertation and under-graduate (B.Tech.) students for their projects.

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**Post-Doctoral Fellowship (PDF)**

- Currently pursuing post-doctoral fellowship (PDF) from Eudoxia Research University, USA. Registered on 02-Feb-2023 (registration no ERU/IIP-PDF/REG/2023/127). Currently 03 SCIE research papers and 01 ESCI research paper published under my work of post-doctoral fellowship under supervision of Prof. Dr. Caleb Moyo and Prof. Dr. Rajesh G Konnur.

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**Ongoing/Completed Funded Projects**

S. No.	Project Title	Project Duration	Sanctioning Authority	Grant No./Project ID	Date of Approval	Status	Funding Amount
1	Cryptogrphahy, Strengthening research & education in Information Security, Information Security Education and Awareness (ISEA) Project Phase III	05 Years	Ministry of Electronics and Information Technology (MeitY), Government of India	L-14017/1/2022-HRD	18.04.2024	Ongoing (2024-2029)	INR 2.016 crore (Approx.)
2	Development of Robust Sign Language and Hand Gesture Recognition System Using Image Processing and Machine Learning for Communication and Education of Hearing and Speech Impaired (HSI) people (Project ID-4204)	03 Years	Council of Science and Technology, U.P.	4204	07.08.2024	Ongoing (2024-2027)	INR 13.04 Lakhs
3	Artificial Intelligence-Driven Chronic Pain Management with Mobile App Integration for Empowering Primary Healthcare Physicians	03 Years	Indian Council of Medical Research (ICMR), New Delhi, India	IIRPSG-2024-01-04154	01.11.2024	Ongoing (2024-2027)	INR 1.63 Crore (Approx.)

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**Mentoring Start-ups/Innovations**

- Participated as judge and mentor in Smart India Hackathon-2020 (SIH-2020), location IET, Dr Ram Manohar Lohiya Awadh University, Ayodhya, India and several internal hackathons held at IET Lucknow.

- Currently, mentoring **02 startups** one with Orgonica Sowing India Private Limited (AgriTech) and another with Biotox Solution Pvt. Ltd. (Biotechnology Sector) registered in Navyug Navachar Foundation, the Incubation Center of IET Lucknow.

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#### **Awards:**

1. Awarded “Best Teachers Award, 2022” in the overall performance category, by Dr A P J Abdul Kalam Technical University, Uttar Pradesh Lucknow, India in 2022.
2. Certificate of Achievement in winning The 2018 ICPC Asia Kharagpur First Round Online Programming Contest, held on October 23, 2019 by our students of IET Lucknow.
3. Certificate of Achievement in winning the ICPC Asia Kanpur Preliminary Online Contest held on 18 October 2019, by our students of IET Lucknow.
4. Certificate of Achievement in winning The 2019 ICPC Asia Kharagpur First Round Online Programming Contest held on October 18, 2019 by our students of IET Lucknow.
5. Awarded “Best Researcher Award” by UCSI University, in 7th International Scientist Awards on Engineering, Science and Medicine, Organized by VDGGOOD Professional Association, the virtual award ceremony took place in Coimbatore, India on 4 to 5 July 2020.
6. Exceptional contribution as Judge in Smart India Hackathon 2020, held on 2<sup>nd</sup> and 3<sup>rd</sup> Aug 2020.

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#### **Administrative Experience:**

1. Currently working as Deputy Dean of Student Welfare in Institute of Engineering & Technology, Lucknow from the session 2017-18 to till now.
  2. Worked as Associate Dean of Faculty of Computer Application at AKTU Lucknow from May 2022 to February 2024.
  3. Working as Associate Dean of Student Welfare at AKTU Lucknow from February, 2024 to till now.
  4. Working as Hostel Warden, Vishweshwaraiya-A Hostel at IET Lucknow from April 2022 to till now.
  5. Working as Internship Coordinator of MCA at Institute level since 28-11-2023 to till now.
  6. Member of Board of Studies, Department of Computer Science, Lucknow University, Lucknow since March 2024.
  7. Member of Department Research Committee of Computer Science department of Lucknow University, Lucknow since March 2024.
  8. Member of Board of Studies, Department of Computer Science and Engineering, Khwaja Moinuddin Chishti Language University, Lucknow, Since March 2024.
  9. ISSACC Member (Sport Activities), Institute of Engineering & Technology, Lucknow from the session 2017-18 to till now.
  10. Member of Review Committee of Empanelled GATE Coaching (Engineers Academy), IET, Lucknow, Session-2018-19.
  11. Worked as a Nodal Officer (II), NPIU Committee, Student Learning Assessment Survey (Conducted by NPIU, New Delhi), IET, Lucknow.
  12. Worked as Hostel Warden and Head of Department, Government Polytechnic College, Mirzapur, UP, India from September 2015 to September 2017.
  13. Editorial Board Member of MedicoPharmaceutica (MedicoPharm) journal, India.
  14. Worked as Assistant Coordinator, IGNOUE, study centre, IET Lucknow since 13-11-2019 to Dec-2020.
  15. Faculty advisor of MCA-final year, IET lucknow since oct 2017 to till now.
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## Publications in detail:

### Research Profile in various platforms:

#### 1. Vidwan Portal Profile

<https://vidwan.inflibnet.ac.in/profile/156154>

#### 2. Google Scholar

<https://scholar.google.com/citations?user=1IDzWegAAAAJ&hl=en>

#### 3. ResearchGate

<https://www.researchgate.net/profile/Upendra-Kumar-14>

#### 4. ORCID Profile

<https://orcid.org/0000-0003-3792-7945>

#### 5. Scopus Profile

<https://www.scopus.com/authid/detail.uri?authorId=57210343923>

#### 6. Web of Science Profile:

<https://www.webofscience.com/wos/author/record/HKP-0667-2023>

#### 7. SSRN Profile:

[https://papers.ssrn.com/sol3/cf\\_dev/AbsByAuth.cfm?per\\_id=7116297](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=7116297)

#### 8. Academia Profile:

<https://ietlucknow.academia.edu/UPENDRAKUMAR>

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## Patents Applied and Published

1. "Identification of specific class of a quasi-periodic signal from the phase-space fractal dimension of its different order-features", **Indian patent application number, 2737/DEL/2010** filed dated November 18, 2010, Patent published on 31/08/2016 and **Patent No. 439560** and **Patent Awarded on 19/07/2023**.
  2. "Electronic Commerce Supply Chain Management System for Decorative Materials Using Machine Learning", patent applied to Germany, Patent Application No.: 20 2022 106 913.1, Application Date: 13-Dec-2022, patent granted on 22-March-2023.
  3. "IoT based wearable health monitoring device", Indian Design Patent, Application No. 383007-001, Accepted and Published Journal No. 26/2023 and Journal Date is 30/06/2023.
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## Publications in International and National Journals:

1. Kumar, U. A Non-invasive Approach for the Classification of the Coronavirus Disease from CT Scan Images Using Machine Learning in Combination with Hybrid Texture Features. New Gener. Comput. 43, 7 (2025). <https://doi.org/10.1007/s00354-025-00291-8>, *I.F. 2.0 (SCIE)*
2. Chaudhary, S., kumar, U. Identification of rice crop diseases using gray level co-occurrence matrix (GLCM) and Neuro-GA classifier. Int J Syst Assur Eng Manag (2024). <https://doi.org/10.1007/s13198-024-02486-6>. (*ESCI*)
3. Tripathi, E., Kumar, U., & Tripathi, S. P. (2024). An efficient digital image forgery detection using Pelican search optimisation-based DCNN. Journal of Experimental & Theoretical Artificial Intelligence, 1–26. <https://doi.org/10.1080/0952813X.2024.2383664>. (*SCIE*)
4. Chaudhary, S., Kumar, U. (2024). Automated detection and classification of rice crop diseases using advanced image processing and machine learning techniques. Traitement du Signal, Vol. 41, No. 2, pp. 739-752, ISSN: 0765-0019. <https://doi.org/10.18280/ts.410216>. *IF-1.9 (SCIE)*
5. Kumar, U. Object recognition using cognition based decision tree clustering in multi-level artificial neural network classifier and self-similarity as feature criterion. Multimedia Tools and Applications (2024), ISSN: 1380-7501. <https://doi.org/10.1007/s11042-024-18691-1>. *IF-3.6 (SCIE)*.

6. Kumar U. A novel approach of classification of COVID-19 from chest CT-Scan images using ensemble classifier in combination with cognition based texture features. *Multimedia Tools and Applications*. Published online March 5, 2024, ISSN: 1380-7501. doi:<https://doi.org/10.1007/s11042-024-18670-6>. IF-3.6 (SCIE).
7. Kumar U. A Novel approach for object recognition using decision tree clustering by incorporating Multi-Level BPNN classifiers and hybrid texture features. *International Journal of Information Retrieval Research*. 2024;14(1):1-31. doi:10.4018/ijirr.338394, ISSN: 2155-6377. IF-1.1(ESCI)
8. Tripathi E., Kumar U., & Tripathi S. P. Comparative Analysis of Techniques Used to Detect Copy-Move Tampering for Real-World Electronic Images. *International Journal of Integrated Engineering*, 2023; 15(4), 201–225, ISSN: 2229-838X. Retrieved from <https://penerbit.uthm.edu.my/ojs/index.php/ijie/article/view/10973>. IF-0.85(Scopus and ESCI)
9. Chaudhary S, Kumar U. An efficient approach for automated system to identify the rice crop disease using intensity level based multi-fractal dimension and twin support vector machine. *Archives of Phytopathology and Plant Protection*. 2023;56(10):806-834, ISSN: 0323-5408. doi:10.1080/03235408.2023.2222444. IF-1.14, (Scopus and ESCI).
10. Chaudhary S, Kumar U., Ekram SMF. A hybrid approach: impact of IoT in rice crop plant disease detection using image processing. *International Journal of Agricultural Resources, Governance and Ecology*, May 2024; 19(3), ISSN: 1462-4605. doi: 10.1504/IJARGE.2023.138615 (Scopus and Web of Science)
11. Tripathi E, Kumar U, Tripathi SP. Image splicing detection system using intensity-level multi-fractal dimension feature engineering and twin support vector machine based classifier. *Multimedia Tools and Applications*. 2022;82(25):39745-39763, ISSN: 1380-7501. doi:10.1007/s11042-022-13519-2. IF-3.6,(SCIE).
12. Chaudhary S, Kumar U. Analysis of Methods of Machine Learning Techniques for Detection and Classification of Brown Spot (Rice) Disease, *Universal Journal of Agricultural Research*. 2022; 10(5): 464-473, ISSN: 2332-2268. doi: <https://doi.org/10.13189/ujar.2022.100502>. (Scopus)
13. Chaudhary S, Kumar U. Study and Development of Automated System to Identify Leaf Spot Rice Disease Using Image Processing Techniques, *Journal of Xi'an Shiyu University, Natural Science Edition*. 2022; 18(8): 788-803, ISSN: 1673-064X. (Scopus)
14. Kumar U. Significant enhancement of segmentation efficiency of retinal images using Texture-Based Gabor Filter approach followed by optimization algorithm. *International Journal of Computer Vision and Image Processing*. 2017;7(1):44-58, ISSN: 2155-6997. doi:10.4018/ijcvip.2017010103. IF-(UGC CARE)
15. Kumar U, Lahiri T. Segmentation of Ill-Defined Objects by Convoluting Context Window of Each Pixel with a Non-Parametric Function. *International Journal of Computer Vision and Image Processing*. 2013;3(1):33-41, ISSN: 2155-6997. doi:10.4018/ijcvip.2013010103. IF- (UGC CARE)
16. Kumar U, Lahiri T. Significant Enhancement of Object Recognition Efficiency Using Human Cognition based Decision Clustering. *International Journal of Computer Vision and Image Processing*. 2013;3(4):1-15, ISSN: 2155-6997. doi:10.4018/ijcvip.2013100101. IF- (UGC CARE)
17. Lahiri T, Kumar U, Mishra H, Sarkar S, Roy AD. Analysis of ECG signal by chaos principle to help automatic diagnosis of myocardial infarction. *Journal of Scientific & Industrial Research*. 2009;68(10):866-870, ISSN: 0975-1084. [http://nopr.niscair.res.in/bitstream/123456789/6132/1/JSIR%2068\(10\)%20866-870.pdf](http://nopr.niscair.res.in/bitstream/123456789/6132/1/JSIR%2068(10)%20866-870.pdf). IF-0.6(SCIE)
18. Lahiri T, Kumar U, Mishra H, Misra K. Derivation of a protein-marker from heat-denatured protein-aggregate. *Online Journal of Bioinformatics*. 2009; 10 (1): 29-39, ISSN: 1443-2250.
19. Kaushik V, Lahiri T, Singha S, et al. Exploring geometric properties of gold nanoparticles using TEM images to explain their chaperone like activity for citrate synthase. *Bioinformation*. 2011;7(7):320-323, ISSN: 0973-8894. doi:10.6026/97320630007320. IF-1.9(ESCI)
20. Kumar U, Lahiri T, Pal MK. Non-parametric convolution based image-segmentation of ill-posed objects applying context window approach. *arXiv (Cornell University)*. February 2012. <https://arxiv.org/pdf/1202.1990.pdf>.
21. Chaudhary S, Kumar U, Pandey A. A Review: Crop Plant Disease Detection Using Image Processing. *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, 2019; 8(7): 472-477, ISSN: 2278-3075. IF-(Scopus)

22. Gupta KK, Dhanda N, Kumar U. A novel hybrid method for segmentation and analysis of brain MRI for tumor diagnosis. *Advances in Science, Technology and Engineering Systems Journal*. 2020;5(3):16-27, ISSN: 2415-6698. doi:10.25046/aj050303.IF-0.7 (Scopus)
23. Yadav S, Kumar U. A Review on Cardiac Abnormalities Classification using Electrocardiogram with Machine Learning and Deep Learning Classification Techniques. *International Journal of Computer Sciences and Engineering*. 2020;8(12): 74-84, ISSN: 2347-2693, Doi: <https://doi.org/10.26438/ijcse/v8i12.7484>. IF-(Scopus)
24. Kumar U, Tiwari PK, Mishra T, Jaiswar L, Ali S. Significant enhancement of classification efficiency for automated traffic management system. *International Journal of Distributed Artificial Intelligence*. 2022;14(1):1-16, ISSN: 2637-7888. doi:10.4018/ijdai.291086.(Peer Reviewed, Indexed In ACM Digital Library, DBLP)
25. Gupta KK, Dhanda N, Kumar U. A novel approach to brain tumor detection using texture based Gabor filter followed by genetic algorithm. *International Journal on Communications Antenna and Propagation*. 2021;11(4):233, ISSN: 2039-5086. doi:10.15866/irecap.v11i4.20766.IF- (Scopus)
26. Singh C, Gangwar M, Kumar U. A review on Neuro-Fuzzy System in the diagnosis of Psychiatric Disorder. *Webology*. 2021;18(Special Issue 01):164-182, ISSN: 1735-188X. doi:10.14704/web/v18si01/web18052.IF- (Scopus)
27. Singh C, Gangwar M, Kumar U. A Paradigm Shift in Diagnosis of Mental Health Problems Towards Integrated Methods of Soft Computing. *Journal of Optoelectronics Laser*. 2022; 41 (8): 126-130, ISSN: 1005-0086.IF- (Scopus)
28. Singh C, Gangwar M, Kumar U. Enhancing Feature Selection Accuracy using Butterfly and Lion Optimization Algorithm with Specific Reference to Psychiatric Disorder Detection & Diagnosis. *International Journal on Recent and Innovation Trends in Computing and Communication*. 2022;10(11):107-114, ISSN: 2321-8169. doi:10.17762/ijritcc.v10i11.5786.IF-(Scopus)
29. Singh C, Gangwar M, Kumar U. Analysis of Meta-Heuristic Feature Selection Techniques on classifier performance with specific reference to psychiatric disorder. *International Journal of Experimental Research and Review*. 2023;31(Spl Volume):51-60, ISSN: 2455-4855. doi:10.52756/10.52756/ijerr.2023.v31spl.006. IF-(Scopus)
30. Saxena S, Chandan RR, Krishnamoorthy R, Kumar U, Singh P, Pandey A K, Gupta S K. Transforming transportation: Embracing the potential of 5G, heterogeneous networks, and software defined networking in intelligent transportation systems. *Journal of Autonomous Intelligence*. 2024;7(4), 1-14, ISSN: 2630-5046. doi:<https://doi.org/10.32629/jai.v7i4.1219>. (Scopus)

### Conference Papers

1. K. K. Gupta, N. Dhanda and U. Kumar, "A Comparative Study of Medical Image Segmentation Techniques for Brain Tumor Detection," 2018 4th International Conference on Computing Communication and Automation (ICCCA), Greater Noida, India, 2018, pp. 1-4, doi: 10.1109/CCAA.2018.8777561. (Scopus)
2. Gupta KK, Dhanda N, Kumar U. Depth analysis of different medical image segmentation techniques for brain tumor detection. In: *Advances in Intelligent Systems and Computing. Advances in intelligent systems and computing*. Springer Singapore; 2020:197-214, Vol. 1064, ISBN: 978-981-15-0338-2. doi:10.1007/978-981-15-0339-9\_16. (Scopus)
3. Tripathi E, Kumar U. Automated Image Splicing Detection using Texture based Feature Criterion and Fuzzy Support Vector Machine based Classifier. *2019 International Conference on Cutting-edge Technologies in Engineering IEEE Conference*; 2019: ISBN: 1728100011, 9781728100012, pp. 81-86, 2019, doi: 10.1109/Icon-CuTE47290.2019.(Scopus)
4. Tripathi, E., Kumar, U., Tripathi, S.P. (2023). Identification of Image Spoofing Using Deep Convolution Neural Network. In: Swaroop, A., Kansal, V., Fortino, G., Hassanien, A.E. (eds) *Proceedings of Fourth Doctoral Symposium on Computational Intelligence*. DoSCI 2023. Lecture Notes in Networks and Systems, vol 726. Springer, Singapore. [https://doi.org/10.1007/978-981-99-3716-5\\_64](https://doi.org/10.1007/978-981-99-3716-5_64). (Scopus)

### Paper presented in conferences/seminars

1. Presented a research paper entitled "An efficient Approach for Detection of Early Stage Lung Cancer using Image Segmentation and Machine Learning", in the International Conference on Quality Confluence Of Biotech, Pharma, Engineering & A.I. Solutions To Global Problems (QCBPEASGP-2024), organized by



Khwaja Moinuddin Chishti Language University, Lucknow and Bioverse Technologies Private Limited, Lucknow, U. P., from 19-20, April 2024.

2. Presented a research paper entitled “Artificial Intelligence and Autonomous eCars” in one day seminar on Artificial Intelligence Techniques in E Vehicles, organized by Institutions of Engineers (India), U.P State Center, at Lucknow, held on April 27, 2024.
3. Presented a research paper entitled “Efficient model used for IoT based digital forensics using blockchain” in International Conference On Computing and Communication Networks (ICCCNet-2024), organized by Manchester Metropolitan University, Manchester, United Kingdom on 17th-18th October 2024.

## **Book Chapters**

1. "Applications of Machine Learning in Diseases Pre-screening", Pre-Screening Systems for Early Disease Prediction, Detection, and Prevention, ISSN: 2475-6628, IGI Global Publisher, Hershey PA, USA, Published on 07/03/2018, Advances in Medical Diagnosis, Treatment, and Care (AMDTC) (ISBN: 9781799877059)(Scopus)
2. "Deep learning for healthcare biometrics", book title: Design and Implementation of Healthcare Biometric Systems, Publisher: IGI Global Publisher, Hershey PA, USA, Approved on 30/08/2018, Advances in Medical Technologies and Clinical Practice (AMTCP), (ISBN: 9781522575252, ISSN: 2327-9354; EISSN: 2327-9370), DOI: 10.4018/978-1-5225-7525-2.ch004.(Scopus)
3. “Artificial Intelligence and Biotechnology: The golden age of Medical Research”, book title: Biotechnology in the Modern Medicinal System: Advances in Gene Therapy, Immunotherapy, and Targeted Drug Delivery, Publisher: Apple Academic Press Inc. by CRC Press, a Taylor & Francis Group, Hard ISBN: 9781003129783, Oct 2021.(Scopus)
4. “Application of Machine Learning to Analyze Biomedical Signals for Medical Diagnosis”, Handbook of Research on Disease Prediction through Data Analytics and Machine Learning, Publisher: IGI Global Publisher, Hershey PA, USA, ISBN13: 9781799827429 | ISBN10: 1799827429, Oct 2020.(Scopus).
5. Esha Tripathi, Upendra Kumar, and Abhay Kumar Tripathi, “Emerging Trends in IoT with Machine Learning Techniques for Biomedical and Healthcare Systems”, Advanced Research in Electronic Devices for Biomedical and mHealth, Hard ISBN: 9781774915165, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024. (Scopus).
6. Ashutosh Singh, Rohit Srivastava, Diwakar Yagyasen, and Upendra Kumar, “Predicting Resilience of Blood Groups Against the COVID-19 Delta Variant Using Machine Learning”, Advanced Research in Electronic Devices for Biomedical and mHealth, Hard ISBN: 9781774915165, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024. (Scopus).
7. Upendra Kumar, Rajesh Kumar Kesharwani, and Manoj Kumar Pal, “The Most Recent Developments and Applications of Smartphone-Based Devices in Biomedical and mHealth”, Advanced Research in Electronic Devices for Biomedical and mHealth, Hard ISBN: 9781774915165, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024. (Scopus).
8. Rohit Srivastava, Chandrabhan Singh, Himanshu Kumar Shukla, and Upendra Kumar, “IC Design: An Approach of Study in Biomedical and mHealth Care Applications”, Advanced Research in Electronic Devices for Biomedical and mHealth, Hard ISBN: 9781774915165, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024. (Scopus).
9. Kapil Kumar Gupta, Neeraj Kumar, Namrata Dhanda, and Upendra Kumar, Machine Learning Techniques Used for Biomedical and Healthcare Systems, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024 (Scopus).
10. Pratibha Pandey, Upendra Kumar, Rajesh Kumar Kesharwani, Study of ML-Enabled Big Data Analysis for IoT-Based Smart Medico Systems, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024 (Scopus).
11. Pratibha Pandey and Upendra Kumar, Machine Learning with Cloud IoT in a Health Prediction System, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc., CRC Press, Taylor & Francis Group, 2024 (Scopus).
12. Prem Shanker Yadav and Upendra Kumar, Intelligent Visual-to-Textual Mapping in Automatic Medical Diagnosis and Treatment, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare

Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc.,CRC Press, Taylor & Francis Group, 2024 (Scopus).

13. Chandrabhan Singh, Prem Shanker Yadav, Himanshu Kumar Shukla, Rohit Srivastava, and Upendra Kumar, Analysis of Integrated Intelligent Methods Towards Medical Decision-Making, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc.,CRC Press, Taylor & Francis Group, 2024 (Scopus).
14. Prem Shanker Yadav, Himanshu Kumar Shukla, Chandrabhan Singh, Sudha Tripathi, and Upendra Kumar, Image Description-Based Medical Image Retrieval, Book Title: Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc.,CRC Press, Taylor & Francis Group, 2024 (Scopus).

#### **Book Published/Under Process:**

1. Rajesh Kumar Kesharwani, Upendra Kumar, Raj K. Keservani, "Advanced Research in Electronic Devices for Biomedical and mHealth", Hard ISBN: 9781774915165, Apple Academic Press, Inc.,CRC Press, Taylor & Francis Group, 2024 (**Published**). (Scopus)
2. Upendra Kumar, Rajesh Kumar Kesharwani, Raj K. Keservani, “Smart Electronic Devices and Systems for Biomedical and Healthcare Applications”, Hard ISBN: 9781774918166, Apple Academic Press, Inc.,CRC Press, Taylor & Francis Group, 2024 (**Accepted**).(Scopus)

#### **Internal Publication:**

- M.Tech (IT) thesis entitled “Characterization of ECG Signal by Chaos Theory Based Simulation to help Automatic Diagnosis of Myocardial Infarction” under guidance of Dr. Tapobrata Lahiri, Professor, IIIT, Allahabad (June 2008).

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#### **MOOCS/SWAYAM Video Lectures Recorded**

Around 40 MOOCS/SWAYAM Video Lectures were recorded on different subjects of Computer Science and Engineering/IT or allied branched of B.Tech. Course and broadcasted in DD Swayam Prabha Channel.

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#### **Ph.D Supervision:**

1. Ms. Esha Tripathi, Reg. No- PhD/17/CSE/2219, Research Scholar and Teaching Assistant under Homi-Bhabha Research Fellowship, Dr A P J Abdul Kalam Technical University, Lucknow, UP (**Thesis Submitted**)
2. Mr. Shashank Yadav, Reg. No- PhD/19/CSE/2410, Research Scholar and Teaching Assistant under Homi-Bhabha Research Fellowship, Dr A P J Abdul Kalam Technical University, Lucknow, UP (**Pursuing**)
3. Mr. Shashank Chaudhary, Reg. No- PhD/17/CSE/2221, Research Scholar, Dr A P J Abdul Kalam Technical University, Lucknow, UP (**Pursuing**)
4. Mr. Chandrabhan Singh, Reg. No- PhD/15/CSE/2105, Research Scholar, Dr A P J Abdul Kalam Technical University, Lucknow, UP, Title: An Integrated Method using Neuro-Fuzzy and Data Mining in the Diagnosis of Psychiatric Disorder (**Awarded**)
5. Mr. Kapil Kumar Gupta, Ph.D-Enrollment No – A7666217002, Research Scholar, Amity University, Lucknow, UP, Title: Development of Automatic Diagnostic System By Segmentation and Analysis of Medical Images. (**Awarded**)

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#### **NPTEL/MOOCs/National Initiative for Technical Teachers Training (NITTT) Courses passed:**

1. Design & Analysis of Algorithm, Aug-Oct 2019.
2. Programming, Data Structures and Algorithms using Python, Jan-March 2020.
3. Biomedical Signal Processing, Jan-Apr 2020.
4. Deep Learning, Jan-Apr 2021.
5. Problem Solving Through Programming in C, Jan-Apr, 2022
6. Orientation Towards Technical Education and Curriculum Aspects, NITTT Module, Feb 2021.



7. Professional Ethics & Sustainability, NITTT Module, Sept 2021.
8. Creative Problem Solving , Innovation and Meaningful R & D, NITTT Module, Sept 2021.
9. Institutional Management & Administrative Procedures, NITTT Module, Sept 2021.
10. Communication Skills, Modes & Knowledge Dissemination, NITTT Module, August 2022.
11. Instructional Planning and Delivery, NITTT Module, August 2022.
12. Technology Enabled Learning & Life Long Self Learning, NITTT Module, August 2022.
13. Student Assessment and Evaluation, NITTT Module, August 2022.

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### **Professional Membership**

1. Board of Study member in Computer Science Department, Lucknow since 16-08-2024 to 2026.
2. Editorial Board Member of Journal of International Research for Engineering and Management (JOIREM).
3. Member of Academia for constitution of advisory board for providing incubation services at STPI- UP (society under Ministry of Electronics & Information Technology (MeitY), Government of India) incubation center, since 24.06.2021.
4. Board of Study Member, Department of Computer Application, IET, Dr. Rammanohar Lohia Avadh University, Ayodhya since March 2022.
5. Registered Reviewer for the journal “Multimedia Tools and Applications” since 2021.
6. Professional Member, Association of Computing Machinery (ACM), Membership Number: 5912626 since 14, October 2019.
7. Professional Member, Computer Science Teachers Associations (CSTA), Membership Number: 6877793, since 13, July 2013.
8. Board of Study Member, Department of Computer Science & Engineering, Shri Ramswaroop Memorial University, Lucknow-Deva Road, India since 2018.
9. Board of Study Member, Department of Computer Science & Engineering, I.E.T. Lucknow, India.
10. Attended BOS meeting as a nominated member of B. Voc. Software Development Programme, Faculty of Science, Lucknow University, Lucknow, on March 01, 2019.
11. Member of Review Committee (Research Article), International Journal of Engineering Research & Technology (IJERT) (ISSN: 2278-0181).

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### **Industrial Projects (in TCS Delhi and Lucknow Campus):**

1. **Automation System for Ministry of Corporate Affairs**, India in TCS New Delhi as a Developer in JAVA/J2EE Technology.
2. **Passport Seva Project**, India in TCS New Delhi as a Developer in JAVA/J2EE Technology.
3. **SMB Education Project**, in TCS Lucknow as a Sr. Developer in JAVA/J2EE Technology.

### **Consultancy Projects (Knowlez Flow Limited and AITM Lucknow):**

1. **Perimeter Protection and Security System** based on Video Analytics and Real Time Image Processing, Sanctioned by ANSAL API, Lucknow.
2. **Home Automation and Security Surveillance System**, based on wireless network and Embedded System, Sanctioned by ANSAL API, Lucknow for their Villas.
3. **Humanoid Robot** based on sensors and video streaming, Sanctioned by ANSAL API, Lucknow.
4. **Movement Detection and SMS alert based Security System** using OpenCV and Embedded technology.

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### **FDP/Conference/Training Program/ Workshop Organized:**

<b>S. No.</b>	<b>Name of the Program</b>	<b>Duration</b>	<b>Organizing Role</b>
1	Faculty Development Programme on Mobile Development & Applications using Android Programming (MobADAP-18)	05-09 February, 2018	Faculty Coordinator
2	Faculty Development Programme on Advanced Digital Image Processing Techniques (ADIPT-18)	23-27 February, 2018	Faculty Coordinator
3	Faculty Development Programme on Soft Computing Approaches and its Applications (SCAA-18)	12-16 March, 2018	Convener
4	Workshop on Python and its Applications with IOT (PAIOT-18)	02-04 May, 2018	Faculty Coordinator
5	Workshop on Data Visualization Using R	27-28 November, 2017	Faculty Coordinator
6	Two day Workshop On Machine Learning using Python (MLP-19)	01-02, April 2019	Faculty Coordinator
7	Workshop on Python Programming and Django Framework (PPDF-19)	29-30, April 2019	Faculty Coordinator
8	One Month Short Term Training Program on UI Designing & Programming	06 Nov-04-Dec, 2019	Faculty Coordinator
9	One week AICTE based ATAL FDP on Advanced Research Applications Of Artificial Intelligence (ARAAI-20)	29 Aug-02 Sept, 2020	Faculty Co-Coordinator
10	One week AICTE based ATAL FDP on Internet of Things (IoT)	29 Oct-02 Nov, 2020	Faculty Co-Coordinator
11	2 <sup>nd</sup> International Conference/ Doctoral Symposium on Computational Intelligence (DoSCI) 2021 at IET Lucknow.	6-7 March, 2021	Faculty Coordinator
12	3 <sup>rd</sup> International Conference/ Doctoral Symposium on Computational Intelligence (DoSCI) 2022 at IET Lucknow.	05 March, 2022	Faculty Coordinator
13	4 <sup>th</sup> International Conference/Doctoral Symposium on Computational Intelligence (DoSCI) 2023 at IET Lucknow.	03 March, 2023	Faculty Coordinator
14	21 Days Masterclass on Amazon Web Services organized by Pantech eLearning and Institution of Electronics and Telecommunication Engineers (IETE) Ranchi Chapter	11-31, October, 2023	Coordinator
15	5 <sup>th</sup> International Conference/Doctoral Symposium on Computational Intelligence (DoSCI) 2024 at IET Lucknow.	10-11, May 2024	Faculty Coordinator
16	21 Days Masterclass on Raspberry Pi organized by Pantech eLearning and Institution of Electronics and Telecommunication Engineers (IETE) Ranchi Chapter.	26 April-17 May, 2024	Faculty Coordinator
17	21 Days Masterclass on NVIDIA - AI Hardware by Pantech eLearning and Institution of Electronics and Telecommunication Engineers (IETE) Ranchi Chapter.	15 July- 05 Aug, 2024	Faculty Coordinator
17	21 Days Masterclass on Advanced Python Programming by Pantech eLearning and Institution of Electronics and Telecommunication Engineers (IETE) Ranchi Chapter.	15 Oct -05 Nov, 2024	Faculty Coordinator
18	6 <sup>th</sup> International Conference/Doctoral Symposium on Computational Intelligence (DoSCI) 2024 at IET Lucknow.	28-29, March 2025	Faculty Coordinator

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**Delivered Lecture as Guest/ Keynote Speaker in Workshop/ Conferences/Seminars**

1. Delivered invited talk on “Artificial Intelligence in Biomedical and Healthcare: Applications and Future Scope” in International Conference on Sustainable Innovation: Bridging Research & Industry for a Resilient Future on 9<sup>th</sup> April, 2025 held at Shri Ramswaroop Memorial University Lucknow-Deva Road Barabanki Uttar Pradesh during 07-09, April 2025.
2. Delivered expert talk on “Artificial Intelligence in Cyber Security” in one week workshop organized by Department of physics & electronics, Dr. Ram Manohar Lohia Awadh University, Ayodhya (UP), during 18.02.2025 to 22.02.2025.
3. Delivered invited talk on “Recent Applications of Artificial Intelligence and Machine Learning in Healthcare” in the 2nd International Conference on “Innovation in Science and Technology for Sustainable Development 2.0” (ISTSD-2024) on November 19<sup>th</sup>- 21<sup>st</sup>, 2024 organized by Maharishi University of Information Technology, Lucknow.
4. Delivered expert lecture on “Artificial Intelligence and Machine Learning in Healthcare” on 12-July-2024 in the seminar organized by Goel Institute of Technology and Management, Lucknow.
5. Delivered expert lecture on “Recent Applications of Artificial Intelligence and Machine Learning in real-life scenario” in the Conference on Innovations in Science & Technology 2024 (CIST-2024), 25-27 April 2024, organized by Institute of Technology & Management, Gida, Gorakhpurin Association with The Institution of Engineers (India) Gorakhpur.
6. Delivered expert lecture on “Recent Applications of Artificial Intelligence and Machine Learning in Healthcare” in International Conference on Quality Confluence Of Biotech, Pharma, Engineering & A.I. Solutions To Global Problems (QCBPEASGP-2024), organized by Khwaja Moinuddin Chishti Language University, Lucknow and Bioverse Technologies Private Limited, Lucknow, U. P., from 19-20, April 2024.
7. Delivered expert lecture on “Introdcution to Artificial Intelligence and its Applications” in the workshop on “Dissiminating Miracles of Digital Technology, Artificial Intelligence and Data Science” under a three-day children centric outreach program of Department of Science and Technology, Ministry of Science and Technology, Government of India, organized by IET Sitapur, on 8<sup>th</sup> Nov, 2023.
8. Delivered expert lecture on “Data Science and Its applications in research” in the workshop on “Dissiminating Miracles of Digital Technology, Artificial Intelligence and Data Science” under a three-day children centric outreach program of Department of Science and Technology, Ministry of Science and Technology, Government of India, organized by IET Sitapur, on 6<sup>th</sup> Dec, 2023.
9. Delivered expert lecture on “Artificial Intelligence in daily life” in the workshop on “Dissiminating Miracles of Digital Technology, Artificial Intelligence and Data Science” under a three-day children centric outreach program of Department of Science and Technology, Ministry of Science and Technology, Government of India, organized by IET Sitapur, on 15<sup>th</sup>Dec, 2023.
10. Expert in panel discussion in the workshop on Artificial Intelligence: Automating Human World on National Science Day held on 28-Feb, 2024 at Department of Computer Science in Lucknow University.
11. Delivered expert lecture on AI in Healthcare and Biomedical Science in International Conference on Computational Intelligence and Cyber Security (ICCICS-2023), organized by FoET, University of Lucknow, 07-09 November, 2023.
12. Delivered expert lecture on “Machine Learning in Healthcare and Biomedical Science” in National

- Conference on Recent Trends in Medical Diagnostic Technology, organized by Department of Paramedical Sciences, Subharti University, Meerut, 02-03 Nov 2023.
13. Delivered expert lecture on “Biometrics using Machine Learning Methods” in International Conference On Navigating Innovative Frontiers: Commerce, Science, Technology And Intellectual Property Rights (IC-NIFCSTIPR 2023), Organized by Lucknow Public College of Professional Studies, Lucknow, 20-22 November, 2023.
  14. Delivered expert lecture on “Artificial Intelligence and Machine Learning Algorithms and Their Applications” in International Conference On Educational Research In Science, Management And Humanities (IC-ERSMH), Organized by Lucknow Public College of Professional Studies, Lucknow, 19-21, October 2023.
  15. Delivered expert lecture on “Application of Machine Learning in Biomedical and Healthcare” in Synergy 2023: International Conference on Fostering Innovations Using Research Methodology at the Nexus of Science Engineering, Commerce and Humanities, Organized by Lucknow Public College of Professional Studies, Lucknow, 14-16, September 2023.
  16. Delivered online expert lecture on “Computer Hazards and Cyber Security”, Seminar on Cyber Security organized at Veer Bahadur Singh Purvanchal University, Jaunpur for Pre-PhD course work, on July 16, 2023.
  17. Given an interview/interaction session in Akashvani Lucknow on topic “Application of Artificial Intelligence and Machine Learning in daily life” on 24<sup>th</sup> June 2023.
  18. Delivered expert lecture in Seminar on “Recent Machine Learning Applications in IoT”, organized at Rameshawaram Institute of Technology and Management, Lucknow, on 13 May, 2023.
  19. Delivered expert lecture in Seminar on “Machine Learning & Artificial Intelligence”, in the seminar on Computer Science TechFest organized at Rameshawaram Institute of Technology and Management, Lucknow, on 19 May, 2022.
  20. Delivered expert lecture on “Machine Learning Algorithms and Their Applications” in One Week Online Short Term Course on “Practical Aspect of Machine Learning”, organized at KNIT Sultanpur, from 07-11, February 2022.
  21. Delivered expert lecture on “Role of Artificial Intelligence Methods in Data Management” in One Week Online Faculty Development Program on “DATA MANAGEMENT”, organized at R.R. Institute of Modern Technology, Lucknow, from 18-22, January 2021.
  22. Delivered expert lecture on “Recent Machine Learning Applications in IoT” in one week AICTE based ATAL-FDP on “Internet of Things (IOT)” organized at REC Sonbhadra, on 04-08, October 2020.
  23. Expert lecture on “Impact of Coronavirus in Higher Education” in “A National Seminar/Symposium on Change in Shape of Higher Education-COVID-19”, organized by Department of IT, IET, Dr. R M L Avadh University, Ayodhya, UP on 30-05-2020.
  24. Keynote Speaker on “Optimization computational algorithms and Their Applications” and Chief Guest on Valedictory day of 3<sup>rd</sup> International Conference on Smart Innovations in Communication and Computational Sciences (Springer), 27-28, February, 2020, jointly organized by Department of IT, IET, Dr. R M L Avadh University, Ayodhya, UP and Dr Ambedkar Institute of Technology, Bengaluru, Karnataka, India.
  25. Delivered Expert Lecture on “Biometric Using Soft-computing methods” in seminar on Artificial Intelligence Babu Banarasi Das Engineering College, Lucknow, UP, India on 29 August 2019.

26. Delivered Expert Lecture on “Role of Artificial Intelligence in Education” in One week workshop on Artificial Intelligence in Education during 15-19, July 2019 at IET Campus, Dr. R. M. L. Awadh University, Ayodhya, India.
27. Keynote Speaker on topic “Introduction to Pattern Recognition and its Applications”, National Conference on Emerging trends in Engineering & Technology, during 27-28, July 2019 at IET Campus, Dr. R. M. L. Awadh University, Ayodhya, India.
28. Delivered Expert Lecture on “Biometrics using Machine Learning Methods” on September 07, 2018 in the seminar on Technology and Innovation at IET Campus, Dr. R. M. L. Awadh University, Faizabad, India during University Convocation-2018.
29. Delivered Expert Lecture on “Biometrics using Machine Learning Methods” in the seminar on Computer Science Technology, on August 26, 2018 at Kamla Nehru Institute of Physical & Social Sciences, Sultanpur, India.
30. Delivered Expert Lecture on “Machine Learning Methods” in the seminar on Current Technology Advancements, held on April 07, 2018 at Shri Ramswaroop Memorial University, Lucknow, India.
31. Delivered Expert Lecture on “Role of ICT in Healthcare”, “STPI Symposium on Big Data Analytics & Role of ICT in Health Care” in 35<sup>th</sup> Annual Conference of Indian Society of Medical Statistics (ISMCON-17), 02-04, November 2017 at SGPGI Lucknow, India.
32. Delivered Expert Lecture on “Soft Computing Tools for Biometric Devices” on October 26-28, 2017, 4<sup>th</sup> IEEE Uttar Pradesh Section, International Conference UPCON 2017, GLA University, Mathura, India.

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**FDP /Training Program/ Workshop Attended:**

1. Completed one week Faculty Development Program (Online) on “Evolving Intelligence: From Machine Learning to Generative AI”, organized by EICT Academy, IIT Roorkee, Roorkee, India, 10-14 February, 2025.
2. Completed one Month Industrial Training/Internship online on “Natural Language Processing” (Online) organized by Pantech Elearning and Institution of Electronics and Telecommunication Engineers (IETE) Ranchi Chapter, 10.04.2024 to 10.05.2024.
3. Completed one week Faculty Development Program (Online) on “Quantitative Research Design and Application of SPSS software”, organized by Eudoxia Research Centre and Eudoxia Research University, USA, 22-28 March, 2024.
4. Successfully completed a “online certificate program in mechanics of manuscript, thesis drafting and funding of research project with application of AI”, conducted by Eudoxia Research Centre India and Eudoxia Research University – USA, 11-21, March 2024.
5. Successfully completed one month Industrial Training/Internship on “Internet of Things”, organized by Pantech Elearning and IETE Ranchi, 25-12-2023 to 24-01-2024.
6. Completed 08-days International Faculty Development Program (Online) on “Qualitative and Quantitative Research Design in Higher Education”, organized by Eudoxia Research Centre and Eudoxia Research University, USA, 05-12 January, 2024.
7. Completed *TWO* weeks FDP on application of AI in research methods and manuscripts drafting process (FDP-AI-RES-2024), organized by Eudoxia Research Centre India and Eudoxia Research University, USA, 23 Feb to 04 March, 2024.

8. Completed Second International Conference on Advanced Research Methods, Tools and Techniques for Multidisciplinary Research (MRD 2.0 2024), organized by Eudoxia Research Centre India and Eudoxia Research University, USA, 20-21, Feb, 2024.
9. Successfully completed course work of IIP-PDF, on International workshop on research manuscript drafting and patent filing process organized by Eudoxia Research Centre India and Eudoxia Research University, USA, 10-17, Feb, 2024 with credit points 10.
10. Completed one week International Faculty Development Program (Online) on “Research Method and Methodologies for Qualitative, Quantitative and Mixed Methods of Research Design”, organized by Eudoxia Research Centre and Eudoxia Research University, USA, 04-14 December, 2023.
11. Attended Second International Conference on Recent Trends in Multidisciplinary Research "ICROM 2.0" 2023, online organized by: Eudoxia Research Centre and Eudoxia Research University – USA, 11-12, December 2023.
12. Completed One Week Faculty Development Program (Online) on IoT with Machine Learning by PVKK Institute of Technology, Andhra Pradesh, 27 Nov-02 Dec, 2023.
13. Completed 09 days International Workshop on “Research Method and Methodology”, online organized by: Eudoxia Research Centre and Eudoxia Research University – USA, 26<sup>th</sup> May-03<sup>rd</sup> June, 2023.
14. Completed International Advanced Faculty Development Program on “Mechanics of Manuscript, Thesis Drafting, and Application of Research Software”, online organized by: Eudoxia Research Centre and Eudoxia Research University – USA, 12<sup>th</sup> May-19<sup>th</sup> May, 2023.
15. Completed International Advanced Faculty Development Program on Effective Manuscript Drafting and Application of Research Software, online organized by: Eudoxia Research Centre and Eudoxia Research University – USA, 3<sup>rd</sup> April-10<sup>th</sup> April, 2023.
16. Completed one week International Faculty Development Program (Online) on “Mechanics of Data Collection and Analysis for Effective Thesis Drafting and Research Project Funding”, organized by Eudoxia Research Centre and Eudoxia Research University, USA, 22 Feb-28 Feb, 2023.
17. Completed one week International Faculty Development Program (Online) on “Qualitative and Quantitative Research Design for Manuscript Drafting Process”, organized by Eudoxia Research Centre and Eudoxia Research University – USA, 11 Feb-17 Feb, 2023.
18. Completed **TWO** Week Online Refresher Course on “Information and Communication Technology”, organized by UGC-HRDC at Lucknow University, Lucknow, from 18 June -01 July, 2022.
19. Completed one Week Online Short Term Course on “Practical Aspect of Machine Learning”, organized at KNIT Sultanpur, from 07-11, February 2022.
20. Completed one-week online FDP on “Application of AI in Water Resource Management (AAWRM-2022)” jointly organized by Department of Applied Sciences & Department of Electronics Engineering, REC Sonbhadra, during 07-11 March 2022.
21. Completed one week FDP on “Empowering Social Life using Artificial Intelligence”, organized at BBD NITM, Lucknow, 21-25, July, 2021.
22. Completed FDP cum STTP on "Recent Trends and Advancements in the Era of Machine Learning" organized by Department of Computer Science and Engineering, Harcourt Butler Technical University, Kanpur and technically sponsored by IEEE- U.P. Section during July 19-24, 2021.

23. Completed one week ATAL-FDP on “Cyber Crimes, Defensive Practices and Safe Computing”, organized at Pondicherry Engineering College, Pondicherry 12-16, July, 2021.
24. Completed one week ATAL-FDP on “Artificial Intelligence & Machine Learning (AI&ML- 2021)”, organized at College of Engineering & Technology, Bhubaneswar, 5-9, July, 2021.
25. Completed one week ATAL-FDP on “Artificial Intelligence”, organized at REC, Sonbhadra from 21-25 September, 2020.
26. Completed one week ATAL-FDP on “Internet of Things (IOT)”, organized at REC, Sonbhadra from 04-08 October, 2020.
27. Completed one week FDP on “Emerging Pedagogy in Online Teaching Learning”, REC, Sonbhadra from 26-30 October, 2020.
28. Completed AICTE-AKTU sponsored FDP on “Next generation of chemical manufacturing & waste management”, organized by IET Lucknow, held from 29 July-02 August, 2020
29. Completed One Week Online FDP on “Emerging Areas and Technologies in Academics and Research in Current Scenario”, Organized by: Department of Computer Science and Engineering Shri Ramswaroop Memorial University, Lucknow-Deva Road, Barabanki, U.P, Date: 27 -31 July, 2020.
30. Completed One Week Online FDP on Emerging Trends in Information Technology from 20th-25th July 2020 conducted by Department of Computer Science, IITM Janakpuri, New Delhi, India.
31. Completed One month industrial training on Python with Machine Learning, conducted by Softpro group of companies, Lucknow from 24 Nov to 31 Dec 2020.
32. Completed one week Online Faculty Development Program (FDP) on “Mathematical Modelling and its Applications in Engineering” scheduled from 06th to 10th July 2020 organized by Applied Science Department, Institute of Engineering & Technology, Lucknow.
33. Attended “A Webinar on Change in Shape of Higher Education-COVID-19”, organized by Department of IT, IET, Dr. R M L Avadh University, Ayodhya, UP on 30-05-2020.
34. Attended webinar on “Deep Learning”, organized by Institute of Engineering & Technology, Lucknow on 03-05-2020.
35. Attended webinar on “Pervasive use of Artificial Intelligence in Industry”, organized by Institute of Engineering & Technology, Lucknow on 02-05-2020.
36. Attended webinar on “Peer to Peer Network”, organized by Institute of Engineering & Technology, Lucknow on 29-04-2020.
37. Attended webinar on “Energy and environment problems facing the third world and their probable solutions for sustainable life”, organized by Institute of Engineering & Technology, Lucknow on 28-04-2020.
38. Attended webinar on “Inaugural Lecture on Blockchains & Bitcoins”, organized by Institute of Engineering & Technology, Lucknow on 28-04-2020.
39. Attended a webinar on “Significant Role of E-education through Social Distancing During Lockdown of COVID-19 Pandemic”, held 08-09 April 2020.
40. Attended the 3rd International Conference on "Smart Innovations in Communication and Computational Sciences" February 27-28, 2020 | Institute of Engineering and Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya, U.P., India
41. Attended “International Conference On Contemporary Computing And Applications” on 05 - 07 February



- 2020, Organized by TEQIP-III & Dr. A.P.J. Abdul Kalam Technical University, Lucknow.
42. Attended National Conference on Emerging trends in Engineering & Technology 27-28th July, 2019, Organised by Department of Information Technology, Institute of Engineering & Technology, Dr. RML Avadh University, Ayodhya, U.P.
  43. Completed one-month short term training program on UI Designing & Programming, Organized by IET Lucknow (under TEQIP-III), 06 Nov to 04 Dec 2019.
  44. Completed Faculty Development Program on "**Advances in Renewable and Bioenergy**", at IET Lucknow, during 19-23, October, 2019.
  45. Completed Faculty Development Program on "**Emerging Trends in Networking**", at AKTU Lucknow, during 24-28, June, 2019.
  46. Completed Faculty Development Program on "**Emerging Recent Trends in High Frequency Devices & Applications**", at IET Lucknow, during 17-21, June, 2019.
  47. Completed Faculty Development Program on "**IPR, Entrepreneurship, and Innovation (IPREI-19)** ", at IET Lucknow, during 01-05, June, 2019.
  48. Completed Faculty Development Program on "**Universal Human Values and Professional Ethics**", at IET Lucknow, during 15-22, December, 2017.
  49. Completed Faculty Training Program on "**Android Developer Fundamentals**", at AKTU Lucknow, during 26-30, December, 2017.
  50. Completed one day Orientation Workshop on "Student Learning Assessment", NPIU, New Delhi on 11-11-2017.
  51. Completed "**Introductory Training Program**" for one week in Institute of Research, Development & Training, Kanpur (IRDT), 08-12, Feb 2016.
  52. Completed Workshop on "**Network and Information Security: Emerging Challenges and Practices**", held at Ansal Technical Campus, Lucknow (05-08 Dec, 2013).
  53. Training Course on "**Robotics and Embedded in C**" by Robosapiens India Pvt. Limited, Noida (15 days, 12-25, Dec, 2012).
  54. Training on "**Initial Learning Program**" by TCS, Tiruvananthapuram, Kerala and Delhi for 2-months (Aug-Sept, 2008).

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#### **Social Activities Done so far**

1. Coordinated as Associate DSW in successful conduction of 03 days Cycle yatra during 25-27, March 2025 to convey the message for energy and environmental protection, organized by AKTU Lucknow under the guidance of Honourable Governor and Chancellor, Shrimati Anandi Ben Patel Ji.
2. Worked as Jury Member in Robo AI Challenge program in Dr. Abdul Kalam Technical, Literary & Management Fest 2024 on 13<sup>th</sup> Dec 2024.
3. Worked as judge in AI Startup and Innovation Summit 2024 held at BBD University Lucknow held on 1<sup>st</sup> May, 2024.
4. Worked as judge in Smart India Hackathon 2020 held during 02-03, August, 2020 (location IET, Dr Ram Manohar Lohiya Awadh University, Ayodhya, India).
5. Contributed as Judge for Internal Hackathon 2022 held at Innovation and Incubation Center, IET Lucknow on 24<sup>th</sup> March, 2024.

- Involved with **Parmart Club** in IET Lucknow run by the students of IET Lucknow since September 2017 as Associate Dean of Student Welfare, which is imparting education to slum area children, involving in extra-curricular activities and supporting in their higher education.

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### **Courses currently undertaken and various laboratory assignments developed thereby**

#### **B.Tech.-Computer Science & Engineering/ IT / MCA:**

1. Data Structure using C
2. Design & Analysis of Algorithm
3. Theory of Computation and Formal Languages
4. Soft Computing
5. Artificial Intelligence
6. Computer Concept & Programming in C
7. Data mining & Data warehousing
8. Data Compression
9. Digital Image Processing
10. Machine Learning
11. Pattern Recognition

#### **M.Tech.-Computer Science & Engineering: (IET Lucknow and CAS, AKTU Lucknow)**

1. Pattern Recognition
2. Data Science
3. Artificial Intelligence
4. Foundation of Machine Learning
5. Introduction to Probability and Statistics

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#### **M.Tech Thesis guided as a Supervisor/Co- Supervisor (Awarded)**

1. Srishti Tiwari (M.Tech Enroll No-1904220105012), “Automated Lung Cancer Detection Using Image Processing Techniques on CT-Scan Images”, Oct 2021, Dr. A. P. J. Abdul Kalam Technical University, Lucknow, U.P., India.
2. Mr. Hariom Mishra (M.Tech. Enroll No-143621017044), “Leukomia Detection using Image Processing”, May 2019, Dr. A. P. J. Abdul Kalam Technical University, Lucknow, U.P., India.
3. Mr. Abhishek Sachan (M.Tech. Enroll No-1412313159924), “Automated Detection of Glaucoma Using Discrete Wavelet Transform & Curvelet based Feature criterion and Fuzzy C-means Classifier”, May 2019, Dr. A. P. J. Abdul Kalam Technical University, Lucknow, U.P., India.
4. Mr. Atul Kumar Pal (M.Tech. Enroll No. 1130449004), “Retinal Blood Vessel Detection and Segmentation for Diabetic Retinopathy”, June 2015, BBD University, Lucknow, U.P., India.
5. Mr. Vinay Priy Mishra (M.Tech. Enroll No. 11304491101), “Texture Analysis using Wavelet Transform”, June 2015, BBD University, Lucknow, U.P., India.
6. Mr. Abhishek Verma, “Sugarcane Disease Detection using Data Augmentation and Deep Learning”, Center for Advanced Study, AKTU Lucknow, U.P., India.
7. Mr. Vikas Yadav, “Detection of Lung and Colon Cancer from Histopathological Images using Deep Learning”, Center for Advanced Study, AKTU Lucknow, U.P., India.
8. Mr. Prashant Kumar Mishra, “Mustard and Wheat Mildew Disease Classification using Deep Learning”, Center for Advanced Study, AKTU Lucknow, U.P., India.
9. Mr. Mohammad Shaharyar Ansari, “Classification of Soil Moisture Content with the Application of Deep Learning.”, Center for Advanced Study, AKTU Lucknow, U.P., India.

10. Ms. Akanksha Yadav, “Leveraging Deep Learning for early Detection of Lumpy Disease in Animals.”, Center for Advanced Study, AKTU Lucknow, U.P., India
11. Ms. Vaishnavi Yadav, “Retinal Eye Disease Detection and Classification using Deep Learning”, Center for Advanced Study, AKTU Lucknow, U.P., India
12. Mr. Anubhuti Rao, “Cyberbullying Detection Using Deep Learning and Machine Learning”, Center for Advanced Study, AKTU Lucknow, U.P., India
13. Ms. Namisha Awasthi, “Android Ransomware Network Traffic Detection Using Decision Tree and L1 Lasso Regularization Feature Selection”, Center for Advanced Study, AKTU Lucknow, U.P., India

#### **M. Tech Thesis guided (On-going)**

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#### **B.Tech/MCA Thesis guided**

1. Achint Chauhan, Shashank Chaudhary, “Crime Reduction and Analysis”, B.Tech-CSE, Session-2018-19.
2. Nishant Dwivedi, Salman Akhtar Khan, Bhupendra Shukla, “Image Tampering Detection”, B.Tech-CSE, Session-2018-19.
3. Mohit Jauhari, Rohit Maurya, “Sentiment Analysis of Amazon User Reviews”, B.Tech-CSE, Session-2018-19.
4. Prashu Gupta, Abhay Pandey, “Attendance Using Biometric”, B.Tech-CSE, Session-2018-19.
5. Abhinav Mishra, Manuj Gupta, “Plant Classification using Leaf Recognition”, B.Tech-CSE, Session-2018-19.
6. Ashish Kumar, Mayank Kumar, “Voice Controlled PC Assistant”, B.Tech-CSE, Session-2018-19.
7. Akshita Sharma, Ekta Rajput, Muskan Rawat, “Brain Tumor Detection using Image Processing”, B.Tech-CSE, Session-2017-18.
8. Nikhar Agrawal, Pritesh Dwivedi, Sarvesh Pathak, “Text to Photo-Realistic Image Generation Using GAN”, B.Tech-CSE, Session-2017-18.
9. Apoorv Jain, Priya Srivastava, “Lung Cancer Detection using Image Processing”, B.Tech-CSE, Session-2017-18.
10. Mukesh Kumar Gautam, Bhanu Pratap Singh, Lakhan Keshwani, “Multinomial Naïve Bayes Classifier (Spam filter)”, B.Tech-CSE, Session-2017-18.
11. Deepak Singh, “Augmented Reality Application”, B.Tech-CSE, Session-2017-18.
12. Ashutosh Pathak, Pushkar Srivastava, “Short term price prediction in financial market”, B.Tech-CSE, Session-2017-18.
13. Prakrati Gupta, Akansha Saxena, Shivam Verma, “Home automation using Internet of things”, B.Tech-CSE, Session-2017-18.
14. Satyam Choudhary, Shailesh Kumar, Prabhat Singh, “Unmanned Ground Vehicle”, B.Tech-CSE, Session-2017-18.
15. Amrita Singh, Sandhya Gautam, “Pomegranate Plant Disease Recognition”, B.Tech-CSE, Session-2017-18.
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*There are many more B. Tech. and MCA final year projects under my supervision are not mentioned here.*

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