Research Coordinator

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Head of Department

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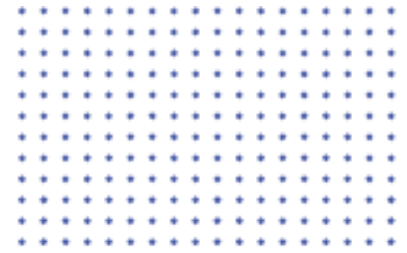
M.Tech., Ph.D. (MNNIT Allahabad)

# RESEARCH BULLETIN DEC 2022
@CSE DEPARTMENT, UCER PRAYAGRAJ

Objective

The objective of this Research Bulletin of Department of Computer Science and Engineering at UCER is to inculcate a vibrant atmosphere of research amongst its **faculty members** and **students.**

Expected Outcomes

1
- To expand the frontiers of knowledge and contribute to Intellectual Property (IP), which enormously enhance our national and state economies.

2
- To improve the quality of research and innovation related activities.
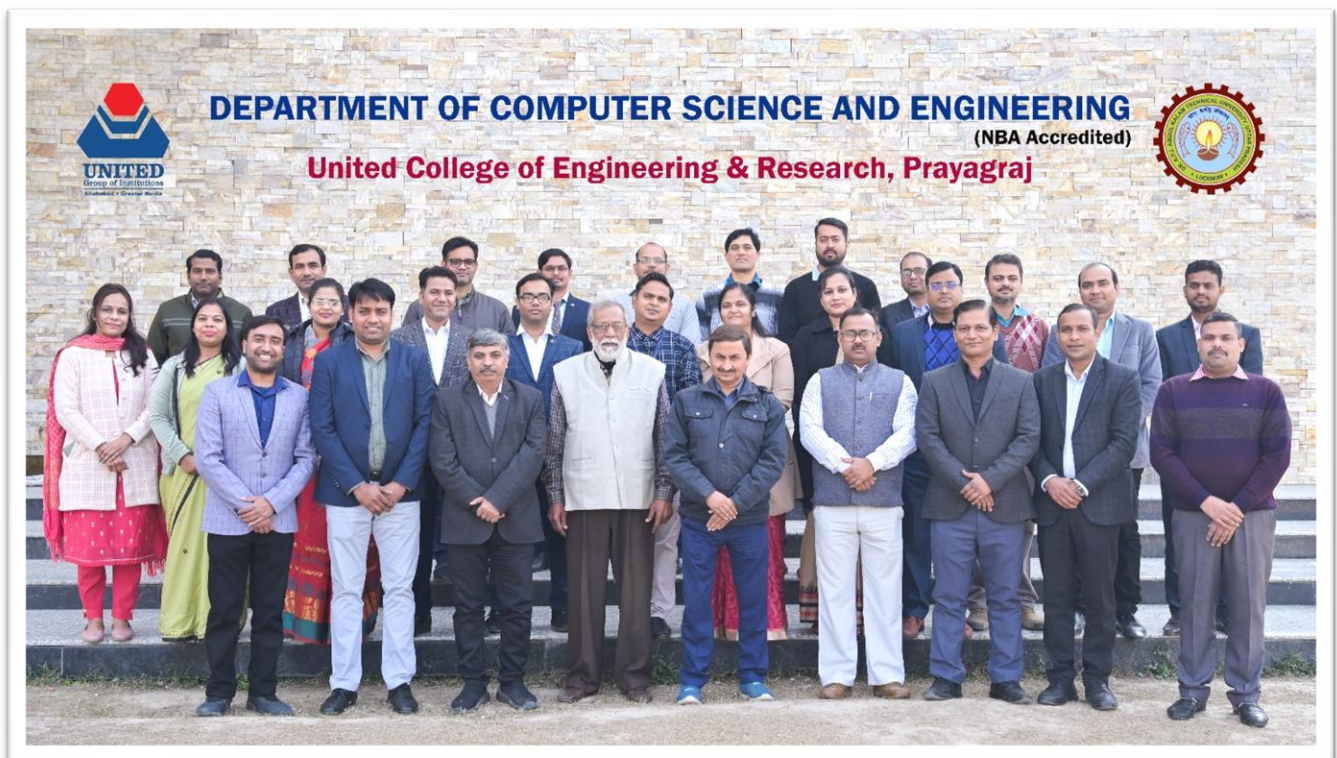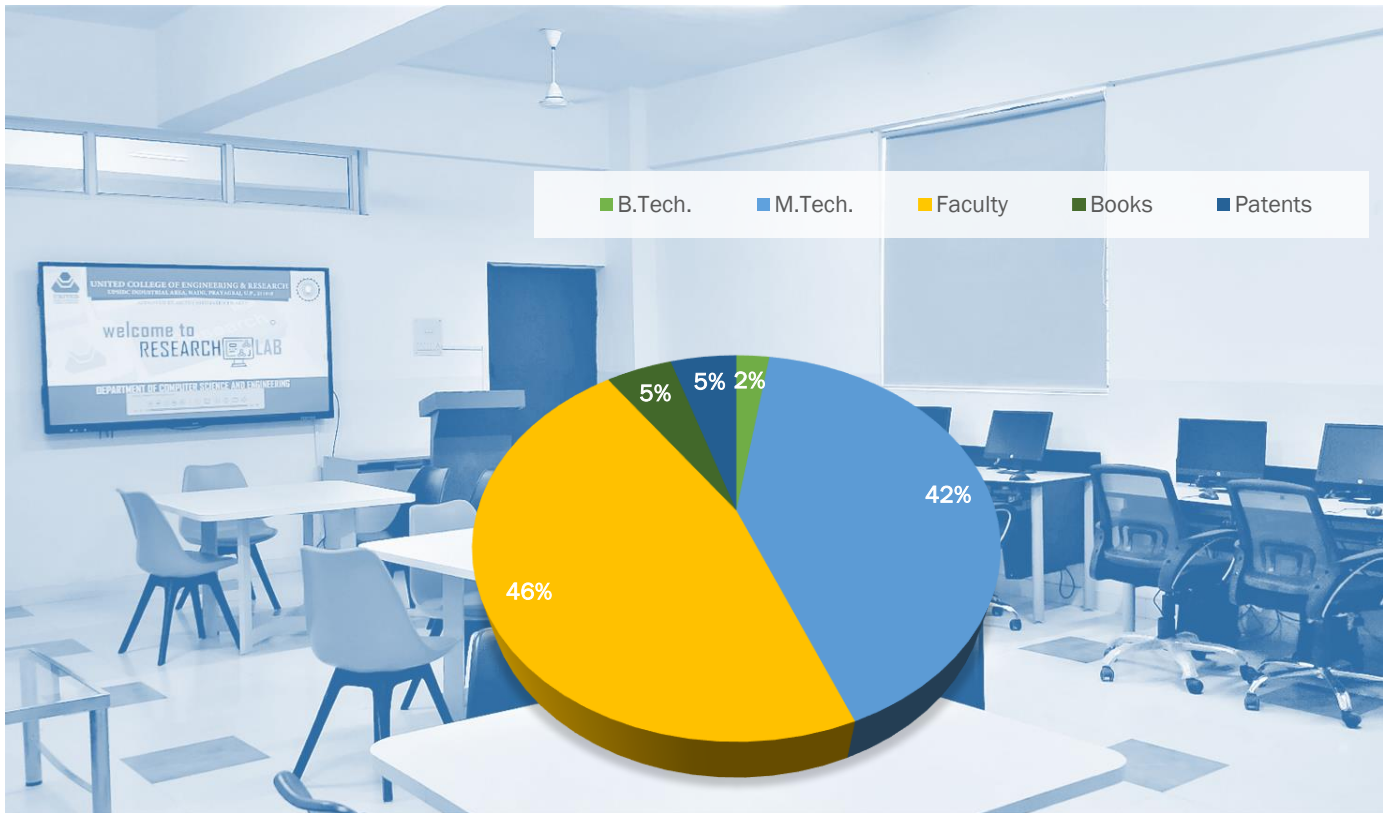
Figure 1: Research Publication Statistics in the year 2022

Department of CSE, UCER aims to publish quality research articles in various esteemed journals and several International Conferences organized by reputed Insitutiions. In this regard, year 2022 has been a tremendous year, as **30** research articles have been published by faculty members and students of the department. In this year, among these publications, **4** articles have been published in SCI Indexed, **8** in Scopus Indexed Journal, **11** articles in Scopus Indexed Conferences, and **7** other articles have been published in reputed International Conferences. And, total **8** articles are under-review/in-revision in various SCI Indexed, Scopus Indexed Journals, and Conferences.

We have put our best effort in other research oriented dimensions including Edited Books, Patent Filing, Thesis Submissions, and Admissions in Doctoral Program at reputed Universities.

THESIS SUBMISSION/AWARDED

1. **Ph.D. Thesis Submitted/Awarded**
   a. **Dr. Shruti Bharadwaj**
      Thesis Title: **Extraction of 3-D Spatial Parameters and Modelling for Urban Application**
      Date of Ph.D. Award: **18 July 2022**

   b. **Mr. Dharmendra Kumar**
      Thesis Title: **Design of Efficient Data Sharing System for a Peer-to-Peer Network**
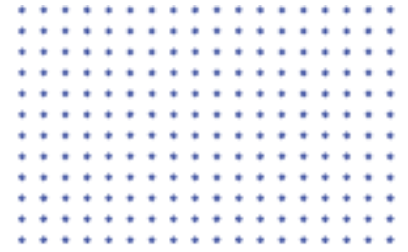   Date of Thesis Submission: **November 2022**

2. **M.Tech. Thesis Awarded**
   a. **Mr. Saurabh Singh Tomar**
      Thesis Title: **Fuzzy Based Enhanced Routing Protocol for Heterogeneous WSN**
      Date of Thesis Award: **27 October 2022**

PUBLICATIONS

1. Research Publications by Faculty Members

1. **Sanjay Pandey** and Shabnam Sharma, "Electrocardiogram: A Burgeoning Biometric Modality for Automated Gender Recognition". Research on Biomedical Engineering, Springer Nature **(Scopus Indexed Journal),** 2022 [Under Review].

2. **Dharmendra Kumar** and Mayank Pandey, "An optimal and secure resource searching algorithm for unstructured mobile peer-to-peer network using particle swarm optimization". Applied Intelligence, Springer Nature **(SCI Indexed Journal),** 2022.

3. **Dharmendra Kumar** and Mayank Pandey, "An optimal load balancing strategy for P2P network using chicken swarm optimization". Peer-to-Peer Networking and Applications **(SCI Indexed Journal),** 2022.

4. **Dharmendra Kumar**, Mayank Pandey, and Ajay Dubey, "Time and Position Aware Resource Search (TPARS) Algorithm for the Mobile Peer-to-Peer Network using Ant Colony Optimization (ACO)". International Journal of Communication Networks and Distributed Systems, Inderscience, Nature **(Scopus Indexed Journal),** 2022.

5. Jyoti Mishra, Mahendra Tiwari, Sanjay T. Singh, and **Sanjay Goswami** "Detection of heart disease employing Recurrent CONVoluted neural networks (Rec-CONVnet) for effectual classification process in smart medical application" 4th International Conference on Recent Trends in Computer Science and Technology (ICRTCST), **(Scopus Indexed Conference),** 2022.

6. **Sanjay Goswami**, Mahendra Tiwari, and Jyoti Mishra, "Machine Learning Techniques in Centralized and Decentralized Financial Domain", Disruptive Technologies Revolting Decentralized Finance, IEEE, **(Scopus Indexed Book Chapter),** 2022, [Accepted]

7. **Bhanu Pratap Rai**, **Ashutosh Kumar Singh**, Nidhi Shukla, and Md. Aqib Khan, "Region-wise Rainfall Analysis and Prediction using ML". International Journal of Neuroquantology **(Scopus Indexed Journal),** 2022, [Accepted].

8. **Bhanu Pratap Rai**, **Ashutosh Kumar Singh**, and C. S. Raghuvanshi, "Prediction of Software Defect using Feature Extraction Technique: A Study". Journal of East China University of Science and Technology **(Scopus Indexed Journal),** 2022, [Accepted].

9. **Shruti Bharadwaj**, Kumari Deepika, Rakesh Dubey, and Susham Biswas, "Noise Prediction Using LIDAR 3D Point Data-Determination of Terrain Parameters for Modelling". Communications in Computer and Information Science, Inderscience, **(Scopus Indexed Journal),** 2022.

10. **Shruti Bharadwaj**, Rakesh Dubey, and Susham Biswas, "GIS Based Smart Noise Mapping to Compare Organized Traffic and Unorganized Traffic for a Developing Smartcity", The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences **(Scopus Indexed Conference),** 2022

11. Iltaf Zafar, **Shruti Bharadwaj**, Rakesh Dubey, and Susham Biswas, "GIS Based Road Traffic Noise Mapping and assessment of Health Hazards for a developing Urban Intersection", Acoustics, MDPI **(Scopus Indexed Journal),** 2022, [In Press].

12. **Shruti Bharadwaj**, Rakesh Dubey, and Susham Biswas, "Automated Noise Data Integration for Noise Mapping Limiting Data Dependency using Raster Data", Remote Sensing Letters, Taylor and Francis **(SCI Indexed Journal),** 2022, [In Press].

13. **Monika Dubey** and Richa Mishra, "5G in Healthcare: Revolutionary Use-cases and QoS Provisioning Powered by Network Slicing". International Conference On Intelligent Systems and Smart Infrastructure (ICISSI 2022), Taylor & Francis, 2022.

14. **Himanshu Rai**, "Classification of Brain Waves using Deep Learning Techniques", International Conference on Artificial Intelligence & Robotics in Life Science (ICAR-2022), 2022, [Accepted]

15. **Prashant Soni**, Sanjeev Kumar, **Vijay Kumar Dwivedi**, and **Dilip Kumar**, "Comparative Study for Breast Cancer Detection using Various Machine Learning Algorithms" International Conference on Applied Sciences, Engineering and Technology (ASET-2022), 2022 [In Press].

16. **Dilip Kumar**, Manoj Pal, **Vijay Kumar Dwivedi**, and **Prashant Soni**, "Indian Rape Crime Prediction using Machine Learning" International Conference on Applied Sciences, Engineering and Technology (ASET-2022), 2022 [In Press].

17. **Snehlata** and Vipin Saxena, "A Neural Network Approach for Currency Identification", Walailak Journal of Science and Technology, **(Scopus Indexed Journal),** 2022, [In Press].

18. **Snehlata** and Vipin Saxena, "A Reliable Technique for Currency Recognition Using Neural Network", IET Image Processing **(SCI Indexed Journal),** 2022**,** [In Press].

19. **Snehlata**, R. Dileep Kumar, and Vipin Saxena, "Evaluating People's Awareness of New Indian Currency Security Features", Walailak Journal of Science and Technology **(Scopus Indexed Journal),** 2022, [Under Review].

20. **Snehlata**, **Pallavi Shukla**, **Ashutosh Kumar Singh**, Saloni Tiwari, and Rishabh Srivastava, "Design and Implementation of E-Voting System Using Blockchain NEAR Protocol", Journal of Cybernetics and Information Technologies **(Scopus Indexed Journal)**, 2022 [Under Review]

2. Publications by M.Tech. Students

i. **Ms. Nidhi Shukla (Roll No. 2000100105002)**
M.Tech (CSE)
Thesis Title: **Privacy Oriented Recommender System using Deep Learning Techniques**
Thesis Supervisor: **Dr. Ashutosh Kumar Singh**

Publications during M.Tech. (Nov 2020– Nov 2022)

1. **Nidhi Shukla**, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "A Privacy Oriented Neural Collaborative Filtering based Framework for Recommendation System". 3rd International Conference on Advances in Computer Engineering and Communication System (ICACECS-2022). Lecture Notes in Network and System (LNNS), 2022, Springer **(Scopus Indexed Conference)** [In Press].

2. **Nidhi Shukla**, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Deep Learning based Cryptocurrency Real Time Price Prediction". International Conference on Advances and Applications of Artificial Intelligence and Machine Learning (ICAAAIML-2022). Lecture Notes in Electrical Engineering (LNEE), 2022. **(Scopus Indexed Conference)** [In Press].

3. **Nidhi Shukla**, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "A LSTM oriented approach for Next word prediction using Deep Learning". International Conference On Applied Sciences, Engineering and Technology-2022 (ASET-2022) [Accepted]

4. **Nidhi Shukla**, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Topical Reviews and Recent Research Advances in Privacy Oriented Recommender Systems: At a Glance". Knowledge and Information Systems. Springer **(SCI Indexed)**, 2022. [Under Review]

5. Bhanu Pratap Rai, Ashutosh Kumar Singh, **Nidhi Shukla**, and Md. Aqib Khan "Region-wise Rainfall Analysis and Prediction using ML". International Journal of Neuroquantology **(Scopus Indexed Journal)**, 2022. [Accepted]

ii. **Ms. Chhaya Dubey (Roll No. 2000100105002)**
M.Tech (CSE)
Thesis Title: **Confluence of Blockchain, Artificial Intelligence, and Machine Learning Techniques**
Thesis Supervisors: **Mr. Dharmendra Kumar and Dr. Ashutosh Kumar Singh**

Publications during M.Tech. (Nov 2020– Nov 2022)

1. **Chhaya Dubey**, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Secure Electronic Polling Process Utilizing Smart Contracts", accepted in International Conference on Advances in Computer Engineering and Communication Systems (ICACECS-2022), Springer Nature **(Scopus Indexed Conference)**, 2022. [In Press]

2. **Chhaya Dubey**, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Confluence of Artificial Intelligence and Blockchain Powered Smart Contract in Finance System", accepted in IEEE International Conference on Computing, Communication, and Intelligent Systems (ICCCIS-2022), **(Scopus Indexed Conference)** [In Press].

3. **Chhaya Dubey**, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Non-Fungible Tokens in Blockchain Ecosystem", International Conference on Applied Sciences, Engineering and Technology (ASET-2022), July 15-16, 2022 [In Press].

4. **Chhaya Dubey**, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Confluence of Artificial Intelligence and Blockchain Powered Smart Contract in Finance System", IEEE International Conference on Computing, Communication, and Intelligent Systems (ICCCIS-2022), **(Scopus Indexed Conference)** [In Press].

5. **Chhaya Dubey**, Nidhi Shukla, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Breast Cancer Modeling and Prediction Combining Machine Learning and Artificial Neural Network Approaches", accepted in IEEE International Conference on Computing, Communication, and Intelligent Systems (ICCCIS-2022), **(Scopus Indexed Conference)** [In Press].

6. **Chhaya Dubey**, Dharmendra Kumar, Ashutosh Kumar Singh, and Vijay Kumar Dwivedi, "Applying Machine Learning Models on Blockchain Platform". International Journal of System Assurance Engineering and Management, Springer Nature **(Scopus Indexed Journal)**, 2022. [Under Review]

iii. **Ms. Shubhangi Krishna (Roll No. 1900100105001)**
M.Tech (CSE)
Thesis Title: **Two-Dimensional Fast Fourier Transform and Biorthogonal Wavelets for Image Compression**
Thesis Supervisors: **Dr. Vijay Kumar Dwivedi and Mr. Dharmendra Kumar**

Publications during M.Tech.

1. **Shubhangi Krishna**, Dharmendra Kumar, and Vijay Kumar Dwivedi. "Biorthogonal Wavelets for Multiresolution Image Compression." In 2022 2nd International Conference on Power Electronics & IoT Applications in Renewable Energy and its Control (PARC), IEEE, 2022 **(Scopus Indexed Conference)**.

2. **Shubhangi Krishna,** Dharmendra Kumar and Vijay Kumar Dwivedi. "Image Compression Using Two-Dimensional Fast Fourier Transform" In 2022 3rd International Conference on Recent Advancements & Innovations in Management, Media, Science, Technology, Education and Legal Issues (ICRAIMMSTEL) [in press].

3. **Shubhangi Krishna**, Dharmendra Kumar and Vijay Kumar Dwivedi, "A Comparative Analysis of Image Compression using Biorthogonal Wavelets and Discrete Meyer", International Conference on Artificial Intelligence & Robotics in Life Science (ICAR-2022), 2022. [Accepted]

iv. **Ms. Vibha Srivastava (Roll No. 1900100105001)**
M.Tech (CSE), Ongoing
Thesis Title: **Cryptocurrency Price Prediction using Optimization Techniques**
Thesis Supervisors: **Dr. Vijay Kumar Dwivedi and Dr. Ashutosh Kumar Singh**

Publications during M.Tech.

1. **Vibha Srivastava**, Vijay Kumar Dwivedi and Ashutosh Kumar Singh, "Cyrptocurrency Price Prediction using Enhanced PSO with Extreme Gradient Boosting Algorithm", Journal Cybernetics and Information Technologies **(Scopus Indexed Journal),** 2022. [Under Review]

2. **Vibha Srivastava**, Vijay Kumar Dwivedi and Ashutosh Kumar Singh, "Modified Attention Mechanism Based Cryptocurrency Price Prognostication with Convolutional Bi-LSTM Model", IEEE International Technology Conference on Emerging Technologies for Sustainable Development (ICCCIS-2022) **(Scopus Indexed Conference),** 2022. [Under Review]

3. **Vibha Srivastava**, Vijay Kumar Dwivedi and Ashutosh Kumar Singh, "Blockchain Based Secured Prognostication of Cardiovascular Disease Using Modified XGBoost", International Conference on Artificial Intelligence, Blockchain, Computing and Security **(Scopus Indexed Conference)**, 2022. [Under Review]

3. Publications by B.Tech. Students

1. Bhanu Pratap Rai, Ashutosh Kumar Singh, Nidhi Shukla, and **Md. Aqib Khan** "Region-wise Rainfall Analysis and Prediction using ML". International Journal of Neuroquantology **(Scopus Indexed Journal),** 2022 [Accepted].
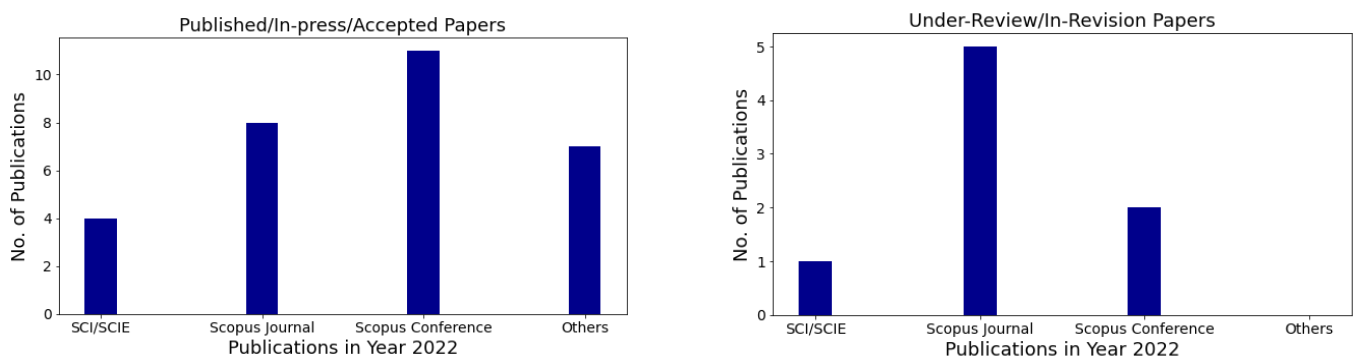
Figure 2: Publications Details (Published/In-press/Accepted and In-revision/Under-review) of Year 2022

4. Edited Book Publications by Faculty Members

1. **Ashutosh Kumar Singh and Others**
   Title: Intelligent Techniques for Industrial Revolution: Principles and Applications
   Book Series: Advances in Science, Technology & Innovation (ASTI)
   Publishers: Springer Nature
   Indexing: Scopus
   Status: In Revision

2. **Ashutosh Kumar Singh and Others**
   Title: AI based Emerging Computing Paradigm for IoT Applications: A Modern Approach
   Book Series: Advances in Learning Analytics for Intelligent Cloud-IoT Systems, Scrivener Publishing
   Publishers: Wiley Publication
   Indexing: Scopus
   Status: Under-review

5. Patents by Faculty Members

1. **Dharmendra Kumar and Others**
   Title: Real Time Financial Fraud Detection using Machine Learning
   Patent Application No.: 202211063530

2. **Abhishek Kesharwani and Others**
   Title: IoT-based Smart Traffic Light Time Optimization System
   Patent Application No.: 202211068204

ENROLLMENTS

Faculty Admissions in Ph.D. Program at Reputed Institutions/Universities (2022-23)

1. **Mr. Shyam B. Verma**
   Ph.D. in Computer Science and Engineering
   University of Allahabad, Prayagraj

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