



Dr. Upasana Sinha, Associate Professor

Centre/School/Special Centre: Engineering & Technology

Department: Computer Science and Engineering

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Educational Qualification

1. **Ph.D. in Computer Science & Engineering** from Dr. C.V. Raman University, Kota, Bilaspur (C.G.): June 2017, under the guidance of Dr. Kamal K Mehta, Professor Department of Computer Science and Engineering, Shri Shankaracharya Group of Colleges, Bhilai, India and Dr. A.K Shrivastava, Head and Professor, Department of Physics, Dr. C.V. Raman University, Kota, Bilaspur (C.G.), India.
2. **M.E. (Computer Technology and Application):** July 2012: from Shri Shankaracharya Group of Colleges, Bhilai (C.G.), with 8.53 CPI (Honours).
3. **B.E (Computer Science Engineering):** Apr 2007: from Bhilai Institute of Technology, Durg (C.G.), with 7.72 CPI.

Field of Interest:

- Digital Image Processing
- Artificial Intelligence
- Pattern Classification
- Deep Learning
- Pattern Recognition
- Computer Vision

Teaching Experience

- Worked as the Head of the Department in Computer Science & Engineering in JK Institute of Engineering (from 2008 July - Sep 2022)
 - ✓ Assistant Professor (July 2008-Dec 2018)
 - ✓ Associate Professor (2018-2022)
- Currently working as an Associate Professor in Guru Ghasidas Vishwavidyalaya, Department of Computer Science & Engineering (Sep 2022-Till Now)

Achievements/ Awards

- Won HOD of the year Award through INSc (Institute of Scholars) in 2020.
- Won Best Senior Faculty Award, by Novel Research Academy, 2021

Contribution to Corporate Life and Management of the Institution (GGV)

- IQAC Member at GGV
- Member of GGV Website Committee

- Member Women Study Center
- Samarth (ERP) Module Coordinator
- Member Internal Complaint Committee (ICC)
- 360 feedback Coordinator
- NBA Coordinator
- Member IT Cell

Best Peer Reviewed Publication:

- Barun Pandey, Upasana Sinha, “A multi-stream framework using spatial–temporal collaboration learning networks for violence and non-violence classification in complex video environments”. International Journal of Machine Learning and Cybernetics <https://doi.org/10.1007/s13042-025-02540> , 2025
- Prof Sushma Bhosle Dr Suman Kumar Swarnkar, Rohit R Dixit, Dr Tamanna M. Prajapati, Dr Upasana Sinha, Dr Yogesh Rathore, “Integrating Artificial Intelligence and Data Analytics for Supply Chain Optimization in the Pharmaceutical Industry”, Journal of Electrical Systems, Vol 20, Issue 3, 682-690,2024.
- Anand Kumar Mishra Rohit R Dixit, Dr Annu Sharma, Dr Upasana Sinha, Dr Navnath Narawade, Dr Suman Kumar Swarnkar, “Data Driven Decision Support Systems for Drug Discovery and Development: A Case Study in Pharmaceutical Management”, Journal of Electrical Systems, Vol 20, Issue 3, 691-699,2024
- Upasana Sinha, Suman Kumar Swarnkar, Gurpreet Singh Chhabra, Abhishek Guru, Bhawna, “Underwater Image Enhancement Using D-Cnn”, NEUROQUONTOLOGY, 20(11),2157-2163,2022
- SK Swarnkar, A Guru, GS Chhabra, PK Tamrakar, B Janghel, U Sinha, “Deep Learning Techniques for Medical Image Segmentation & Classification”, International Journal of Health Sciences, 6(S10), 408-421,2022
- Ramakant Chandrakar, Rohit Raja, Rohit Miri, Raj Kumar Patra, Upasana Sinha, “Computer Succored Vaticination of Multi-Object Detection and Histogram Enhancement in Low Vision”. Int. J. of Biometrics. Special Issue: Investigation of Robustness in Image Enhancement and Preprocessing Techniques for Biometrics and Computer Vision Applications. 15(3-4),255-271[SCI Index Impact Factor – 1.2].
- Ramakant Chandrakar, Rohit Raja, Rohit Miri, Upasana Sinha, Alok Kumar Singh Kushwaha, Hiral Raja, “Enhanced the moving object detection and object tracking for traffic surveillance using RBF-FDLNN and CBF algorithm”, 2021, Expert Systems With Applications 191 (2022) 116306, [SCI Index Impact Factor – 6.954].
- Upasana Sinha, Atul Singh, Dileshwar Patel, “Modern Job Search Using Ontology Approach in Online Job Portals”, International Journal of Advanced Science and Technology(IJAST), Issue:4, Vol 29, ISSN:2005-4238, pp. 4182-4189, 2020.[Scopus] Index Impact Factor:0.475
- Upasana Sinha, Vikas Dubey, “The Technique of Different Semantic Search Engines”, International Journal of Recent Technology and Engineering (IJRTE), Vol 9, Issue:1, pp. 1496-1501, ISSN:2777-3878, 2020. [Scopus]. Index Impact Factor:5.97
- Upasana Sinha, Kamal K Mehta, Real Time Implementation for Monitoring Drowsiness Condition of a Train Driver using Brain Wave Sensor “, International Journal of Computer Applications 139 (9), 25-30, 2016

Book Chapters

- Upasana Sinha, Akansha Gupta, Samera Khan, Shilpa Rani, Swati Jain, “Human Machine Interaction and Visual Data Mining”, Data Mining Technologies Using Machine Learning Application, 13:9781119791782,2021.
- Upasana Sinha, Kamal Mehta and Prakash C Sharma, “An Introduction to Medical Image Analysis in 3D”, Advanced in Artificial Intelligence, Machine learning in 2D/3D Medical Image Processing, 9780367374358, 2020
- Kamal mehta, Prakash C Sharma, Upasana Sinha,” Medical Image Fusion Using Adaptive Neuro Fuzzy Inference System”, Advanced in Artificial Intelligence, Machine learning in 2D/3D Medical Image Processing, 9780367374358, 2020
- K Ramya Laxmi, Upasana Sinha, P. Sravana Laxmi, Sravya Gujjalapudi, “The Prediction of performance & pricing of cryptocurrency Using machine Learning”, Blockchain and Machine learning based Emerging Technology Taylor & Francis Publishing House USA, 978-613-8-94950-3, 2020.
- Suman Kumar Swarnkar, Asha Ambhaikar, Virendra Swarnkar, Upasana Sinha, “Optimized Convolution Neural Network (OCNN) for Voice-Based Language Recognition: Optimization and Regularization”, Information and Communication Technology for Competitive Strategies (ICTCS 2020),https://doi.org/10.1007/978-981-16-0739-4_60

Books Published as Author

- Data Analytics with Python for Beginners, B0BP493W INENCE PUBLICATIONS PVT LTD; 1st edition (December 4, 2022) YK
- A Textbook on Automata Theory, B0BNZFW57 LINENCE PUBLICATIONS PVT LTD; 1st edition (December 3, 2022)

Ph.D. Supervision Ongoing-02

Additional Information:

National / International Patent Published / Granted:

1. Patent Published: A System and Method For Determining Drowsiness Condition Of A Train Driver, Application Number:2778/MUM/2015A, Patent filed Date: 22/07/2015, Patent Published Date:27/01/2017
2. An Unmanned Aerial Vehicle for Surveillance. Application no.202021045472, filing date- 19/10/2020 Published date-13/11/2020 Grant
3. International Patent: Home Automation Based on User Detection Using Internet of Things, Application no.2021100439, Filing Date:23/01/2021, Grant:7/04/2021.
4. Optimized Convolution Neural Network (OCNN) for Voice Based Sign Language Recognition: Optimization. Application no 20201030006
5. Patent Published: VOICE ENABLED SMART MALL ASSISTANT, Application No.385678-001, Published date:06/05/2023

6. Patent Published: MEDICAL IMAGE SEGMENTATION USING CONVOLUTIONAL NEURAL NETWORKS WITH AUTOENCODER, Application No.: 202221059300, Published Date: 21/10/2022

7. MULTIMODAL NEUROIMAGING FOR EARLY ALZHEIMERS DETECTION: A DEEP LEARNING APPROACH, Date of Application: 06/05/2023, Registration Number: L-132221/2023

Conferences/ FDP/ Guest Lecture

Upasana Sinha, Barun Pandey, VCFNet - A Multi-Stream Approach to Violence Detection in Complex Video Scenarios using Spatiotemporal Motion Fusion, 2025 IEEE International Conference on Contemporary Computing and Communications (InC4), March 14-15, 2025.

Upasana Sinha, Optimizing Patient Flow and Resource Allocation in Hospitals using AI, 1st International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIHHI-2023), 29th-30th Dec, IEEE

Upasana Sinha, Predicting Brain Tumor Survival using MRI Images and Machine Learning Techniques, 4th International Conference on Data Science and Applications (ICDSA 2023). Malviya National Institute of Technology Jaipur, July 14-15, India

Upasana Sinha, Analysis of Information and Communication Technologies Application and Improvement of Student Performance in Higher Education, 9th International Conference on Innovations in Electronics and Communication Engineering (ICIECE-2021), Aug 13th

Upasana Sinha, Tarun Diwan, Intelligent Learning Environment Model for Education, 2017 IEEE 7TH International Advance Computing Conference, Jan 5th, 2017.

Upasana Sinha, Knowledge Acquisition for Rule Based Development using Expert System, International Conference on Electrical, Electronics and Computer Science, Nagpur, July 7th, 2012.

Upasana Sinha, Kamal K Mehta, Railway Derailment Monitoring, and its application to Avoid Sudden damages, International Conference on Electronics, Information and Communication System Engineering (ICEICE), March 28th, 2011

Upasana Sinha, Device Driver Wrapper enables the use of Microsoft Windows drivers for WebCams on Linux based Systems, National Conference on Innovation In Engineering, J.K. Institute of Engineering, Bilaspur, Feb 2nd, 2015.

FDP/Lectures

10 days AICTE Training and Learning (ATAL) Academy FDP on “Deep Learning and Machine Learning Algorithms in Computer Vision” (Resource Person), Organized by CSE Department, GGV Bilaspur.

10 days NEP 2020 Orientation and Sensitization Programme, Organized by MMTTC, GGV Bilaspur.

Conducted Refresher Course on (12 days) “Synchronizing Devices and Impacts of Internal Safety Under Cyber Security” (**Coordinator-Dr Upasana Sinha**)

Organized by UGC-HRDC and Department of Computer Science Engineering, SoS Engineering and Technology Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.),

Deep Learning and Machine Learning Applications in Computer Vision”, One-week Faculty Development Programme Organized by Electronics & ICT Academies, NIT Patna, Aug 22, 2020.

Computational Intelligence and Blockchain Technology, FDP on Computational Intelligence and Blockchain Technology (CIBT-21)” organized by the Department of Computer Science & Engineering, NIT Raipur, Oct 4, 2021.

Artificial Intelligence and Machine Learning, Four days FDP Organized by Lakhmi Chand Institute of Engineering, Bilaspur, Department of Computer Science Engineering, Jun 26,201.
Invited Guest Lectures

Resource Person: Application of AI on farming, Refresher Course on Natural Farming for Environmental Sustainability and Development organized by UGC- Malaviya Mission Teacher Training Centre (MMTTC) of Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) from 12/02/2024 to 24/02/2024.

Resource Person: Introduction to Image Processing, 7th GURU-DAKSHTA Faculty Induction Programme (FIP), UGC HRDC, GGV, Bilaspur,23/11/2022

Resource Person: Application of Machine Learning in day-to-day activities, 9th GURU-DAKSHTA Faculty Induction Programme (FIP), 17/2/2023

Resource Person: Implementation of AI in real life, 12th GURU-DAKSHTA Faculty Induction Programme(FIP), UGC HRDC, GGV, Bilaspur, 5/10/2023

Resource Person: Cyber Security, 11th GURU-DAKSHTA Faculty Induction Programme(FIP), UGC HRDC, GGV, Bilaspur, 16/8/2023

Resource Person: Inventory Management on Samarth, Short Term Course on Professional Development, UGC HRDC, GGV, Bilaspur,10/1/2023

Resource Person: Interdisciplinary Skill Development Through Science and Technology, Value Added Course, LCIT, Bilaspur, 27/3/2023

Resource Person: Introduction to Image Processing, Organized by Dr.C.V.Raman University, Kota Bilaspur, Jan 22nd, 2022

Resource Person: Internet And Multimedia technology, Organized by Dr.C.V.Raman University, Kota Bilaspur, Nov 22,2011.

Resource Person: Compiler Design, Organized by Govt.E Raghvendra Rao P.G Science College (Guest Lecture), Bilaspur, Nov 27th, 2020