DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

**Programs offered :** BTech CSE, MTech CSE, MTech AI  
**No. of Students : B.Tech. :** 9  
 **M.Tech. :** 2  
 **MS (R ) :** 0  
 **PhD :** 1  
**Head of the Department :** Dr. SRS Iyengar   
**No. of faculty members :** 12  
**No. of staff members :  
 Technical Staff :** 2  
 **Administrative Staff :** 1  
**Thrust Area :**   
**No. of Publications :** 10

# Faculty Members

**Name :** Abhinav Dhall  
**Designation :** Associate Professor  
**PhD Institute :** Australian National University  
**Areas :** Computer Vision, Affective Computing and Human Computer Interaction

**Name :** Deepti Bathula  
**Designation :** Associate Professor  
**PhD Institute :** Yale University, USA  
**Areas :** Medical Image Processing and Analysis, Pattern Recognition, Machine Learning and Computer Vision

**Name :** Mukesh Saini  
**Designation :** Associate Professor  
**PhD Institute :** National University of Singapore  
**Areas :** Multimedia Systems, Visual Analytics, Surveillance, Privacy

**Name :** Neeraj Goel  
**Designation :** Associate Professor  
**PhD Institute :** IIT Delhi, India  
**Areas :** Processor architecture, SoC design and modeling, Low power design, behavior synthesis, Reconfigurable computing and FPGAs, Retargatable code generation and compiler optimizations

**Name :** Nitin Auluck  
**Designation :** Associate Professor  
**PhD Institute :** University of Cincinnati, USA  
**Areas :** Scheduling and Resource Allocation in Parallel and Distributed Systems, Real-Time Systems.

**Name :** Dr.Puneet Goyal  
**Designation :** Associate Professor  
**PhD Institute :** Purdue University, USA  
**Areas :** Applied Deep Learning, Image Processing and Forensics, Analytics, Healthcare, Security

**Name :** Shashi Jha  
**Designation :** Associate Professor  
**PhD Institute :** IIT Guwahati, India  
**Areas :** Artificial Intelligence, Machine Learning, Multiagent Systems, Robotics, Bioinspired Algorithms

**Name :** Shweta Jain  
**Designation :** Associate Professor  
**PhD Institute :** Indian Institute of Science, Bangalore  
**Areas :** Game Theory, Mechanism Design, Machine Learning, Reinforcement Learning

**Name :** Dr.Sudarshan Iyengar  
**Designation :** Assistant Professor  
**PhD Institute :**   
**Areas :** Data Science

**Name :** Sujata Pal  
**Designation :** Associate Professor  
**PhD Institute :** IIT Kharagpur, India  
**Areas :** Mobile ad-hoc networks, Delay tolerant networks, Vehicular networks, Content centric networks, Wireless sensor networks.

**Name :** Vishnusai Janjanam  
**Designation :** Assistant Professor  
**PhD Institute :** TP  
**Areas :** Tp

**Name :** Viswanath Gunturi  
**Designation :** Associate Professor  
**PhD Institute :** Computer Science, University of Minnesota  
**Areas :** Spatial and Spatio-temporal databases, Sptial data mining, Graph algorithms, Geographic Information Sciences, Transportation.

# Ongoing Activities

# Facilities

**No. of Labs : UG :** 3

**Name of the lab :** Security  
**Name of the Head of the Research lab :** Vishnusai Janjanam  
**Name of the Equipments :** computer

**Name of the lab :** adf  
**Name of the Head of the Research lab :** Vishnusai Janjanam

**Name of the lab :** Artificial Intelligence  
**Name of the Head of the Research lab :** Vishnusai Janjanam

# AWARDS AND HONOURS 2022 (faculty)

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.No | faculty | title | type |
| 1 | Abhinav Dhall | ACM Multimedia Mediate Challenge | CP |
| 2 | Abhinav Dhall | Program Co-Chair, 24th ACM International Conference on Multimodal Interaction 2022 | CP |

# LECTURES BY VISITING EXPERTS

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.No | Name of the experts with affiliation | Topic | date(YYYY-MM-DD) |
| 1 | Dr. Shibu Raman, Cardiff University UK. | Gave a talk on liveable urbanism and discussed research collaboration. | 2022-07-21 |

# VISITS ABROAD BY THE FACULTY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr.No | Name of the faculty member | Country | Visit Details | Date of visit |
| 1 | Dr.Puneet Goyal | BPR&D Hqrs, Ministry of Home Affairs, New Delhi | Talk on Preventing Phishing Attacks:Hard AI Problems based Novel and Adaptive Approach | 2022-01-18 |
| 2 | Dr.Puneet Goyal | IIT Indore | Lecture on Computer Vision-the Artificial Intelligence for an Eye | 2022-02-21 |
| 3 | Shweta Jain | NIELIT & IIT Ropar | Industrial Training Courses under joint certification | 2022-04-15 |
| 4 | Mukesh Saini | PEC, Chandigarh | Talk on AI for Anomaly detection at the Department of Mechanical Engineering in collaboration with Production Engineering Department and C.O.E | 2022-03-08 |
| 5 | Nitin Auluck | JNU, New Delhi | Talk on Research directions in fog and edge computing | 2022-03-10 |
| 6 | Nitin Auluck | NIT Uttarakhand | Talk on Scheduling and resource allocation in fog computing | 2022-03-04 |
| 7 | Nitin Auluck | NIT Jalandhar | Talk on Edge computing | 2022-03-01 |
| 8 | Shweta Jain | CSIR-CSIO and IIT-Ropa | Invited talk on fair clustering algorithm in CSIR-CSIO and IIT-Ropar joint workshop on "AI for social good" | 2022-02-07 |
| 9 | Mukesh Saini | DTU | A talk at One Week Online STTP on Recent Advances and Challenges in Computer Vision | 2022-12-07 |
| 10 | Mukesh Saini | IIIT Kottayam | Expert talk at ATAL FDP | 2022-12-09 |
| 11 | Mukesh Saini | Punjab Agriculture University. | A talk on AI for Agriculture for the beneficiary under-privileged students conducted under ICAR-1 (Part-E) | 2022-03-30 |

# MAJOR RESEARCH PROJECTS (Ongoing/Completed)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sr.No | Name of the faculty member | Title of the project | Start date | Ongoing/Completed | Name of the funding agency | Amount invested (in Rs. Crores) |
| 1 | Shweta Jain | Towards fair and interpretable machine learning models | 2020-01-01 | CO | SERB | 0.27 Cr |
| 2 | Shweta Jain | Learning in the Presence of Strategic Agents | 2022-01-01 | CO | CRG | 0.55 Cr |
| 3 | Shweta Jain | Achieving fairness in federated learning models | 2022-01-01 | CO | CRG | 0.396 Cr |
| 4 | Dr.Puneet Goyal | Design and Evaluation of Demosaicking Techniques for Low Cost and Efficient Multispectral Imaging Systems | 2020-01-01 | ON | DST-ECRA | 0.31 Cr |
| 5 | Dr.Puneet Goyal | Computationally intelligent methods to provide visually impaired cognitive support for better learning | 2020-01-01 | ON | DST-CSRI | 0.58 Cr |

# PUBLICATIONS

## Faculty : M. Saini

**Papers:**P. Choudhary, N. Goel, and M. Saini, "A fingerprinting based audio-seismic systems for human target localization in an outdoor environment using regression." IEEE Sensors Journal 22, no. 8, 2022, pp. 7944-7960.  
M. Singh and P. Goyal, "DeepDoT: Deep framework for detection of tables in document images", Cloud Removal in Satellite Imagery Using Adversarial Network and RGB-Optical Data Fusion.

## Faculty : N. Goel

**Papers:**P. Choudhary, N. Goel, and M. Saini, "A fingerprinting based audio-seismic systems for human target localization in an outdoor environment using regression." IEEE Sensors Journal 22, no. 8, 2022, pp. 7944-7960.  
S. Shivdeep, S. K. Vohra, N. Goel and D. M. Das, "A Robust Training Signal Generator for Trainable Memristive Digital to Analog Converter," 2021 IEEE International Symposium on Smart Electronic Systems (iSES), 2021, pp. 1-5, doi: 10.1109/iSES52644.2021.00014.  
M. Singh and P. Goyal, "DeepDoT: Deep framework for detection of tables in document images", Cloud Removal in Satellite Imagery Using Adversarial Network and RGB-Optical Data Fusion.  
N. Goel, S. S. Jha, and S. R. S. Iyenger, "Behind the Scenes of a Postgraduate Curriculum Design in an Autonomous Institute." In Proceedings of the 15th Annual ACM India Compute Conference, pp. 46-51. 2022  
G. Singhal, P. Choudhary, V. Abhishek, S. Sweety, S. Subramanian, and N. Goel, "Cattle Collar: An End-to-End Multi-Model Framework for Cattle Monitoring." IEEE 5th International Conference on Multimedia Information Processing and Retrieval (MIPR), pp. 401-407. IEEE, 2022

## Faculty : N. Auluck

**Papers:**S. Konar, N. Auluck, R. Ganesan, A. Goyal, T. Kaur, M. Sahi, T. Samra, S. Thingnam, and G. D. Puri, "A non-linear time series based artificial intelligence model to predict outcome in cardiac surgery", Health and Technology, Springer, 2022.  
K. Fizza, A. Banerjee, P. Jayaraman, N. Auluck, R. Ranjan, K. Mitra, and D. Georgakopoulus, "A Survey on evaluating the Quality of Autonomic Internet of Things Applications", IEEE Communication Surveys and Tutorials, 2022.  
A. Kaur, N. Auluck and O. Rana, "Real-Time scheduling on Hierarchical Heterogeneous Fog Networks", IEEE Transactions on Services Computing, 2022

## Faculty : Dr.P. Goyal

**Papers:**M. Gupta, V. Rathi and P. Goyal, "Adaptive and Progressive Multispectral Image Demosaicking," IEEE Transactions on Computational Imaging (I.F. 3.49), vol. 8, pp. 69-80, 2022

## Faculty : S. Jha

**Papers:**N. Goel, S. S. Jha, and S. R. S. Iyenger, "Behind the Scenes of a Postgraduate Curriculum Design in an Autonomous Institute." In Proceedings of the 15th Annual ACM India Compute Conference, pp. 46-51. 2022

## Faculty : S. Jain

**Papers:**D Das, Shweta Jain, S. Gujar 2021. Budgeted Combinatorial Multiarmed Bandits. Accepted to Autonomous Agents and Multi-Agent systems, AAMAS 2021

## Faculty : Dr.S. Iyengar

**Papers:**N. Goel, S. S. Jha, and S. R. S. Iyenger, "Behind the Scenes of a Postgraduate Curriculum Design in an Autonomous Institute." In Proceedings of the 15th Annual ACM India Compute Conference, pp. 46-51. 2022

# 5) Any other important information

(Note: The data will be included from April 1, 2019 to March 31, 2020)