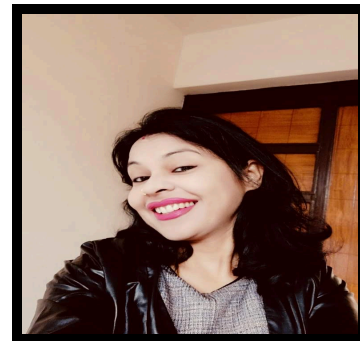


## **Prof. (Dr.) MAMTA JUNEJA**

Professor, Department of Computer Science & Engineering  
Co-Principal Investigator, Design Innovation Centre  
(Medical Devices & Restorative Technologies)  
Co-Principal Investigator, FIST, DST, CSE  
University Institute of Engineering & Technology,  
Panjab University, Chandigarh-160014  
[mamtajuneja@pu.ac.in](mailto:mamtajuneja@pu.ac.in), 9878677624  
[uiet.puchd.ac.in/faculty/prof.\\_mamta\\_juneja](http://uiet.puchd.ac.in/faculty/prof._mamta_juneja)  
Design Innovation Centre(DIC), PU  
Technology Business Incubator at UIET(TBIU), PU  
[Google Scholar Profile](#) [Linkedin Profile](#) [Vidwan Profile](#)



### **AREA OF SPECIALISATION**

Smart Medical Devices and Restorative Technologies, Artificial Intelligence (Machine/Deep Learning)  
Diagnostic Solutions(Cancer, Glaucoma, DR), AI powered 3D modeling and 3D printing for Skull Reconstruction  
Data Dashboards, Internet of Things(IoT), Image and Video Processing, 3D Modelling, 3D Printing  
Steganography, 5G Technologies

**EXPERIENCE:** 22+YEARS, **EDUCATION QUALIFICATION:** PhD(CSE), M.E.(CSE), B.Tech (CSE)

### **PATENTS: 03**

- Application No.-202011028427 - "Wearable Apparatus for determining Goniometric Readings of a Body Portion of a Subject", Filed on: 3/7/2020 with the Indian Patent Office, Published in the Patent Journal of India No. 34/2020 dated:21/8/2020, **Granted on: 8/7/2021, PATENT NO: 3714**
- Application no.: 202111051825- "IoT based Human Bite force Measuring Apparatus and Method", Filed on 11/11/2021 with the Indian Patent Office, Published in the Patent Journal of India No. 53/2021 dated: 31/12/2021, **Granted on: 22/5/2024, PATENT NO: 534114**
- Application no. 202211030357- "Active Transradial Bionic Prosthetic Arm", Filed on 26/05/2022 with the Indian Patent Office, Published:8/7/2022

## **STARTUP GRANTS AS MENTOR : 05**

Rs 4 Lakh sanctioned by MHRD to a PU-DIC based Startup “Assist O Care Technologies Pvt Ltd” based on a Motion Sensing Glove for Product Development & incubation linkage.

Rs 5.5 Lakh sanctioned by the Ministry of Education Innovation Cell to a PU-DIC based Startup “Simply3D” for manufacturing Filament Extruder Machine -FEM for Product Development & incubation linkage.

Selected among 276 idea proposals approved under MSME Innovative Scheme, announced by Hon'ble Minister Of MSME on the occasion of International MSME Day at Vigyan Bhawan, New Delhi on 27.06.2023 with a grant of 15 lacs for “IoT based Human Bite force Measuring Apparatus and Method”

Project titled “Motion and Grip Sensing Glove” received a grant of Rs. 3 lacs from [Project Incubators Funding Scheme \(PIFS\)](#) of Panjab University Incubation Center, RUSA

Project titled “Techviz” received a grant of Rs. 5 lacs from [Project Incubators Funding Scheme \(PIFS\)](#) of Panjab University Incubation Center, RUSA

## **PUBLICATIONS: (Refer ANNEXURE I)**

|  |                          |                                   |
|--|--------------------------|-----------------------------------|
| JOURNALS: <b>121</b> (SCI: <b>55</b> , SCOPUS: <b>29</b> ) | BOOK CHAPTERS: <b>25</b> | CONFERENCE PROCEEDINGS: <b>24</b> |
|--|--------------------------|-----------------------------------|

CITATIONS: **2851** h Index: **27**, i10 INDEX: **52**

**INTERNATIONAL CONFERENCE PRESENTATIONS: 32 (Refer ANNEXURE II)**

## **OUTREACH ACTIVITIES: (Refer ANNEXURE III)**

|                          |   |                         |  |
|--------------------------|---|-------------------------|--|
| DIC EVENTS ORGANISED: 55 | INTERNATIONAL CONFERENCES ORGANIZED: 09 | WEBINARS ORGANIZED:02   |  |
| FDPs attended: 15        | WORKSHOPS: (ORGANISED:12, ATTENDED:11)  | IIC EVENTS ORGANISED: 5 |  |

## **REVIEWER:**

**JOURNALS:** BSPC, IEEE Security and Privacy, IJCSI, JIPS, IJNS, SCN, IJISS, IJICS, IJCSIS, Information Security-Taylor-Francis, Informatica, Information Security Springer, MTAP, MVAP, ELCVIA, Rapid Prototyping, Expert systems and applications **CONFERENCES:** ICAMSE 2020, ICAMSE 2021

**AWARDS:**

**GOLD MEDAL- CII MILCA**(Most Innovative Low Cost Automation) **AWARD 2020-MENTOR CATEGORY**  
BEST PAPER PRESENTATION AWARD, INTERNATIONAL CONFERENCE ICAMSE 2020.  
BEST RESEARCH PUBLICATION AWARD 2016.

**CERTIFICATIONS: 15**  
(Refer ANNEXURE IV)

**EXPERT LECTURES: 33**  
(Refer ANNEXURE V)

**FUNDED RESEARCH PROJECTS: 08**

| S.No     | Title  | Agency   | Period |      | Amount (lacs) |
|----------|--|--|--------|------|---------------|
|          |  |  | From   | To   |               |
| <u>1</u> | Visvesvaraya PhD Scheme for I.T  | MeitY  | 2015   | 2022 | 35            |
| <u>2</u> | Medical Devices and Restorative Technologies, Design Innovation Centre   | MHRD   | 2015   | 2026 | 175           |
| <u>3</u> | Predicting Twitter News Trends using deep learning   | Ministry of Education, , King Abdulaziz University       | 2019   | 2024 | 5             |
| <u>4</u> | Designing of craniofacial implants using clinically relevant materials   | NTU STPC funding scheme, Nottingham Trent University, UK | 2021   | 2022 | 10            |
| <u>5</u> | Center of Excellence for Designing and Development of IoT based AI driven Predictive Systems for Society Oriented Services | FIST, DST  | 2022   | 2027 | 88            |
| <u>6</u> | Design and Fabrication of Active Transradial Bionic Prosthetic Arm   | SERB,DST   | 2022   | 2025 | 37.95         |
| <u>7</u> | AI based reproducible diagnostic solution for early-stage detection of furcation radiolucency in primary mandibular molar  | ICMR   | 2023   | 2025 | 30            |
| <u>8</u> | Artificial Intelligence based automated and optimised cranial reconstruction solutions (AICR                               | NTU, UK  | 2024   | 2025 | 15            |
|          |  |  |        |      | 395.95        |

## **RESEARCH SUPERVISION: Ph.D. Students (11): Awarded-06, Ongoing- 05**

| S. No. | Candidate Name      | Title of the Project   | Registration No.                        | Funding Agency | Status             |
|--------|---------------------|--|---|----------------|--------------------|
| 1      | Ravinder Kaur       | Development of Computer Aided Diagnosis System for Renal Lesions in CT Images                                    | 2014-EZ-134                             | UGC            | Awarded, 11/7/2020 |
| 2      | Gaurav Garg         | Segmentation and Classification of Cancer in Multiparametric Prostate MRI  | 11-UIT-637                              | PGIMER         | Awarded 20/4/2022  |
| 3      | Himika Sharma       | Development of an Approach to Study the effect of Alternative and Complementary Therapy on Human Brain using EEG | 12-UIT-632                              | TEQIP          | Awarded 17/4/2023  |
| 4      | Saurabh Sharma      | Development of indexing techniques for data analysis based on text and image data                                | 2016-EZ-36                              | Visvesvaraya   | Awarded 30/4/2022  |
| 5      | Niharika Thakur     | Development of Computer Aided Diagnosis System for Glaucoma in Retinal images                                    | 09-UIT-257                              | CSIR           | Awarded 17/4/2023  |
| 6      | Mukesh Dalal        | A Secure Steganography technique for Digital Forensics in H.264/ AVC Videos                                      | 2016-EZ-50                              | TEQIP          | Awarded 17/4/2023  |
| 7      | Priyanka            | Detection and Classification of Furcation Radiolucency in Dental Radiographs using Deep Learning techniques.     | 2022-EZ-104<br>Enrolled on:<br>3/2/2023 |                | in-Process         |
| 8      | Sahil Pathak        | AI based CAD System for Automated Detection and segmentation of furcated region in IOPA                          | 14-SG-166<br>Dated:<br>12/09/2023       | ICMR           | in-Process         |
| 9      | Sumindar Kaur Saini | Advanced CAD System for Automated Detection and Staging of Prostate Cancer Using MRI Imaging                     | 36917000065<br>Dated:<br>12/09/2023     |                | in-Process         |
| 10     | Archita             | AI-Enhanced Gesture Classification for Transradial Bionic Prosthetic Arms Using EMG and EEG Signals              | 2023-EZ-66<br>Dated-<br>14-12-2023      |                | in-Process         |

|    |                  |  |                                |          |            |
|----|------------------|--|--------------------------------|----------|------------|
| 11 | Prashant Prakash | Optimized Design and Fabrication of Active Transradial Bionic Prosthetic Arm | 37017000233<br>Dated- 6-3-2024 | SERB-DST | in-Process |
|----|------------------|--|--------------------------------|----------|------------|

### **RESEARCH SUPERVISION: M.E. Students**

| S. No. | Title of the Project  | Registration no | Duration  | Candidate Name  | Awarded |
|--------|---|-----------------|-----------|-----------------|---------|
| 1      | Pixel Intensity Based Information Hiding System Using LSB Substitution Technique.                               | 11-UIT-651      | 2011-2013 | Savita          | yes     |
| 2      | Brain tumor detection, demarcation and evaluation via MRI.  | 11-UIT-643      | 2011-2013 | Navneet         | yes     |
| 3      | A Segmentation approach for Iris recognition in an unconstrained environment                                    | 12-UIT-611      | 2012-2014 | Navjot Kaur     | yes     |
| 4      | Hybrid edge detection-based image steganography for RGB Images.   | 12-UIT-604      | 2012-2014 | Deepali Singla  | yes     |
| 5      | Optic disc and optic cup segmentation for glaucoma diagnosis.   | 09-UIT-257      | 2013-2015 | Niharika Thakur | yes     |
| 6      | Chaos encrypted pixel value differencing steganography technique in the spatial domain.                         | 13-UIT-576      | 2013-2015 | Nirmala Pun     | yes     |
| 7      | Multi modal biometrics system using iris and palmprint recognition.   | 14-UIT-687      | 2014-2016 | Yakshita        | yes     |
| 8      | A New steganography approach using NEDI and fuzzy approach for images.  | 14-UIT-678      | 2014-2016 | Mohanjeet       | yes     |
| 9      | Fungal Disease Detection and Classification of Cereal Crops (Maize, Rice and Wheat) as 'Healthy' or 'Unhealthy' | 15-UIT-608      | 2015-2017 | Priyanka        | yes     |
| 10     | Local Tetra Pattern Based Fruit Grading Using Different Classifiers   | 15-UIT-609      | 2015-2017 | Raman           | yes     |
| 11     | A Deep Learning Method for the Detection of Colorectal Polyps in Colonoscopy Videos                             | 12-UIT-328      | 2016-2018 | Manveer         | yes     |
| 12     | A Deep Learning Method For Cervix Cancer classification Using Colposcopy Images                                 | 16-UIT-31       | 2016-2018 | Vasudha         | yes     |

|    |  |            |           |                |     |
|----|--|------------|-----------|----------------|-----|
| 13 | Denoising of Magnetic resonance imaging using Bayes shrinkage based fused wavelet transform  | 13-UIT-190 | 2017-2019 | Jatin Gupta    | yes |
| 14 | Denoising of computed tomography images for improved diagnosis of pancreatic cancer  | 18-UIT-44  | 2018-2020 | Harjinder Kaur | Yes |
| 15 | Comparative analysis of orthopaedic implants using different Biomaterials for cranial-facial reconstruction with simulation                | 18-UIT-50  | 2018-2020 | Piyush         | No  |
| 16 | Segmentation of Medical Images for detecting Brain Tumour  | PU1932510  | 2019-2021 | Ishani         | No  |
| 17 | A CAD SYSTEM FOR SEGMENTING AND CLASSIFYING FOR KIDNEY AND ITS DISEASE   | 20-UIT-62  | 2020-2022 | Divyanshi      | Yes |
| 18 | A CAD System for Modality Imputation and Classification of Brain Tumor MRIs using AI   | 20-UIT-59  | 2020-2022 | Amit           | Yes |
| 19 | Detection of deciduous teeth in mandible intraoral radiographs using deep learning   | 21-UIT-307 | 2021-2023 | Maninder Kaur  | Yes |
| 20 | Detection and segmentation of furcation in mandible deciduous intraoral periapical radiographs using DNN                                   | 21-UIT-316 | 2021-2023 | Sahil          | Yes |
| 21 | Grading of classification of furcation from mandible deciduous intraoral radiographs using deep learning                                   | 21-UIT-711 | 2021-2023 | Sumindar Kaur  | Yes |
| 22 | Categorizing Hand Gestures for Prosthetic Arms through Classification of EMG Signals employing Machine Learning & Deep Learning Techniques | 22-UIT-314 | 2022-24   | Ravneet Kaur   | No  |
| 23 | CAD system for Diabetic Retinopathy  | 23-UIT-307 | 2023-25   | Harsimran Kaur | No  |
| 24 | Predictive model for Liver Cirrhosis   | 23-UIT-309 | 2023-25   | Jasjeet Singh  | No  |

## FUTURE PLANS

**Establish** Centre Of Excellence in Artificial Intelligence in Healthcare at PU to develop cutting-edge technologies with **up state-of-the-art infrastructure** under **MAKE IN INDIA and ATMA NIRBHAR INDIA for RURAL POPULATION OF:**

- **SMART MEDICAL DEVICES FOR HEALTH MONITORING AND DIAGNOSTICS FOR MASS SCREENING.**
- **AFFORDABLE CUSTOMIZED BODY IMPLANTS AND PROSTHETICS**



(Mamta Juneja)

## ANNEXURE I: PUBLICATIONS

### INTERNATIONAL JOURNALS: 121 (SCI: 55, Scopus: 28)

#### 2024(4)

1. Juneja, M., Saini, S.K., Sharma, K. *et al.* Prostate classification network (PC-Net) for automated classification of Prostate cancer in Magnetic resonance imaging. *Multimedia Tools and Applications* (2024). <https://doi.org/10.1007/s11042-024-19177-w>, Publisher: Springer, Indexing: Science citation index, Impact factor: 0.3.6, UGC Listed,
2. Juneja M, Bajaj D, Thakur N, Jindal P. Reproduction of human dental models using different 3D printing techniques. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. 2024;0(0). doi:[10.1177/09544089241239591](https://doi.org/10.1177/09544089241239591), Publisher: Sage, Indexing: Science citation index , Impact factor: 2.4, UGC Listed
3. Garg, G., Juneja, M. Possibilistic exponential spatial fuzzy clustering based cancer segmentation in multi-parametric prostate MRI. *Multimedia Tools and Applications*, <https://doi.org/10.1007/s11042-024-18762-3>, Publisher: Springe, Indexing: Science citation index, Impact factor: 3.6, 2024.
4. Mamta Juneja, Ashwani Rathee, Rishabh Verma, Raag Bhutani, Shashank Baghel, Sumindar Kaur Saini, Prashant Jindal, Denoising of magnetic resonance images of brain tumor using BT-Autonet, *Biomedical Signal Processing and Control*, Volume 87, Part B, 105477, ISSN 1746-8094, <https://doi.org/10.1016/j.bspc.2023.105477>, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 5.1, UGC Listed, 2024

#### 2023 (9)

5. Juneja, M., Minhas, J.S., Singla, N. *et al.* Denoising techniques for cephalometric x-ray images: A comprehensive review. *Multimedia Tools and Applications* (9 November 2023). <https://doi.org/10.1007/s11042-023-17495-z>, Publisher: Springer, Indexing: Science citation index, Impact factor: 0.3.6, UGC Listed, Published online: 09 November 2023.
6. Mamta Juneja, Gurunam Singh, Chirag Chanana, Rishabh Verma, Niharika Thakur & Prashant Jindal, "Region-based Convolutional Neural Network (R-CNN) architecture for auto-cropping of pancreatic computed tomography", *The Imaging Science Journal*, pp:1-14, Publisher: Taylor and Francis, Indexing: Science citation index, Impact factor: 0.241, UGC Listed, June, 2023
7. Kaur Harjinder, Kaur Saini Sumindar, Thakur Niharika and Juneja Mamta\*, "Survey of Denoising, Segmentation and Classification of Pancreatic Cancer Imaging", *Current*



- Medical Imaging, Volume 20, pp 1-17, Publisher: Bentham Science, Indexing: Science citation index expanded, Impact factor: 1.4, UGC Listed, July, 2023.
8. Chhabra Divyanshi, Juneja Mamta\*, Chutani Gautam, "An efficient ensemble based machine learning approach for predicting Chronic Kidney Disease", Current Medical Imaging, Volume 20, pp 1-12, Publisher: Bentham Science, Indexing: Science citation index expanded, Impact factor: 1.4, UGC Listed, July, 2023.
  9. Aarti Bohora, Manojkumar Jaiswal, Mamta Juneja, Maninder Kaur, Rishabh Verma, Rupansh Sekar, "Application of Artificial Intelligence to Diagnose the Complex Split Canals in Endodontics: a preliminary retrospective study", European Chemical Bulletin, Volume:12, Issue:8, pp: 522-530, Publisher: Deuton-X Ltd, Indexing: Scopus, UGC Listed, 2023
  10. Mamta Juneja, Gurunam Singh Chhatwal, Shatabarto Bhattacharya, Niharika Thakur, Prashant Jindal, "Autoencoder-based dense denoiser and block-based wiener filter for noise reduction of optical coherence tomography", Computers and Electrical Engineering, Volume 108, pp:1-13, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 4.3, UGC Listed, May, 2023.
  11. Saini, S.K., Thakur, N. & Juneja, M., "Radiomics Based Diagnosis with Medical Imaging: A Comprehensive Study", Wireless Personal Communication, Volume 130, Issue 1, pp 481-514, Publisher: Springer, Indexing: Science citation index expanded, Impact factor: 2.2, UGC Listed, March, 2023.
  12. Prashant Jindal, Chaitanya, Shreerama Shiva Sai Bharadwaja, Shubham Ratra, Vipin Gupta, Philip Breedon, Yvonne Reinwald, and Mamta Juneja, "Designing cranial fixture shapes and topologies for optimizing PEEK implant thickness in cranioplasty", Part L: Journal of Materials: Design and Applications, Volume 237, Issue 8, pp.1-19, Publisher: Sage, Indexing: Science citation index expanded, Impact factor: 2.4, UGC Listed, February, 2023.
  13. Prashant Jindal, Chaitanya, Shreerama Shiva Sai Bharadwaja, Shubham Ratra, Deval Pareek, Vipin Gupta, Philip Breedon, Yvonne Reinwald, and Mamta Juneja, "Optimizing Cranial Implant and Fixture Design Using Different Materials in Cranioplasty", Part L: Journal of Materials: Design and Applications, Volume 237, Issue 1, pp.107-21, Publisher: Sage, Indexing: Science citation index expanded, Impact factor: 2.4, UGC Listed, January, 2023.

## 2022 (9)

14. Jindal, P., Bhattacharya, A., Singh, M., Pareek, D., Watson, J., O'Connor, R. ., Breedon, P., Reinwald, Y. ., & Juneja, M. (2022). Unilateral cranial defect bone reconstruction using 3D designing and manufacturing . *Transactions on Additive Manufacturing Meets Medicine*, 4(1), 655. <https://doi.org/10.18416/AMMM.2022.2209655>. September 22, 2022
15. Mamta Juneja, Sumindar Kaur Saini, Rajarshi Acharjee, Sambhav Kaul, Niharika Thakur, Prashant Jindal, "PC-SNet for Automated Detection of Prostate Cancer in

- multiparametric- Magnetic Resonance Imaging”, International Journal of Imaging Systems and Technology, Volume 32, Issue 6, pp 1861-79, Publisher: Wiley, Indexing: Science citation index expanded, Impact factor: 3.3, UGC Listed, November 2022.
16. Dalal, M., Juneja, M., “Steganalysis of DWT Based Steganography Technique for SD and HD Videos”, Wireless Personal Communication, Volume:128, Issue 4, pp: 2441-2452, Publisher: Springer, Indexing: Science citation index expanded,, Impact factor: 2.2, UGC Listed, October 2022.
  17. Ravinder Kaur, Mamta Juneja, “A hybrid approach for enhancement of abdominal CT images”, Computers and Electrical Engineering, Volume:102, pp: 1-15, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 4.3, UGC Listed, September 2022.
  18. Mamta Juneja, Janmejai Singh Minhas, Naveen Singla, Sarthak Thakur, Niharika Thakur, and Prashant Jindal, "Fused Framework for Glaucoma Diagnosis using Optical Coherence Tomography (OCT) images" Expert Systems with Applications, Volume 201, pp:1-12, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 8.5, UGC Listed, September 2022.
  19. Mamta Juneja, Sarthak Thakur, Archit Uniyal, Anuj Wani, Niharika Thakur, and Prashant Jindal, "Deep learning-based classification network for glaucoma in retinal images", Computers and Electrical Engineering, Volume: 101, pp:1-13, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 4.3, UGC Listed, July 2022.
  20. Mamta Juneja, Jannat Chawla, Gerry Dhingra, Ishank Bansal, Sahil Sharma, Parveen Goyal, Gurvanit Lehl, Anand Gupta, Prashant Jindal, "Analysis of additive manufacturing techniques used for maxillofacial corrective surgeries", Part C: Journal of Mechanical Engineering Science, Volume 236, Issue 14, pp 7864-7875, Publisher: Sage, Indexing: Science citation index, Impact factor: 2.0, UGC Listed, July 2022.
  21. Mamta Juneja, Saasha Joshi, Naveen Singla, Shaurya Ahuja, Sumindar Kaur Saini, Niharika Thakur, Prashant Jindal, “Denoising of Computed tomography using Bilateral median based autoencoder network”, International journal of imaging systems and technology, Volume 32, Issue 3, pp:935-955, Publisher: Wiley, Indexing: Science citation index expanded, Impact factor: 3.3, UGC Listed, May 2022.
  22. Saurabh Sharma, Vishal Gupta, Mamta Juneja, “A novel unsupervised multiple feature hashing for image retrieval and indexing (MFHIRI)”. Journal of Visual Communication and Image Representation. Volume 84, pp: 1-13, Publisher: Elsevier, Indexing: Science citation index expanded, Impact factor: 2.6, UGC Listed, April 2022.

## 2021 (14)

23. Himika Sharma, Rajnish Raj, Mamta Juneja, An empirical comparison of machine learning algorithms for the classification of brain signals to assess the impact of combined Yoga and Sudarshan Kriya, Computer Methods in Biomechanics and

- Biomedical Engineering, pp: 1-8, 4 December, 2021. **(Science citation index expanded)**  
**(Impact factor: 1.6)**
24. Mukesh Dalal, Mamta Juneja, "A survey on information hiding using video steganography", Artificial Intelligence Review, Volume 84, Issue 8, pp: 5831-5895, Dec 2021. **(Science citation index expanded)** **(Impact factor: 12)**
  25. Mamta Juneja, Sumindar Kaur Saini, Sambhav Kaul, Rajarshi Acharjee, Niharika Thakur, Prashant Jindal, "Denoising of magnetic resonance imaging using Bayes shrinkage based fused wavelet transform and autoencoder based deep learning approach", Biomedical Signal Processing and Control, Volume: 69, pp:1-24, 1 Aug 2021. **(Science citation index expanded)** **(Impact factor: 5.1)**
  26. Mamta Juneja, Sumindar Kaur Saini, Jatin Gupta, Poojita Garg, Niharika Thakur, Aviral Sharma, Manan Mehta, Prashant Jindal, "Survey of denoising, segmentation and classification of magnetic resonance imaging for prostate cancer", Multimedia Tools and Applications, Volume: 80, pp: 29199-249, August 2021. **(Science citation index, Impact factor: 3.6)**
  27. Gaurav Garg, Mamta Juneja, "Particle swarm optimization based segmentation of Cancer in multiparametric prostate MRI", Multimedia Tools and Applications, pp: 1-24, 18 August 2021. **(Science citation index, Impact factor: 3.6)**
  28. Mamta Juneja, Poojita Garg, Ravinder Kaur, Palak Manocha, Prateek, Shivam Batra, Pradeep Singh, Shaswat Singh, Prashant Jindal, "A review on cephalometric landmark detection techniques", Biomedical Signal Processing and Control, Volume 66, pp: 1-14, 1 April 2021. **(Science citation index expanded)** **(Impact factor: 5.1)**
  29. Mukesh Dalal, Mamta Juneja, "A secure and robust video steganography scheme for covert communication in H.264/AVC", Multimedia Tools and Applications, Volume 80, issue 9, pp:1-25, April 2021. **(Science citation index, Impact factor: 3.6)**
  30. Piyush Kumar Mallya, Mamta Juneja, "Rapid prototyping of orthopedic implant materials for cranio-facial reconstruction: A Survey", Materials Today: Proceedings, Volume 45, pp: 5207-5213, March 2021. **(Scopus indexed)**
  31. Niharika Thakur, Mamta Juneja, "Early-stage prediction of glaucoma disease to reduce surgical requirements using deep-learning", Materials Today: Proceeding, Volume 45, pp: 5660-5664, March 2021. **(Scopus indexed)**
  32. Mukesh Dalal, Mamta Juneja, "A secure video steganography scheme using DWT based on object tracking", Information Security Journal: A Global Perspective, Volume 31, Issue 2, pp: 196-213, 4 March 2021. **(Scopus indexed)**
  33. Ravinder Kaur, Mamta Juneja, AK Mandal, "Machine learning based quantitative texture analysis of CT images for diagnosis of renal lesions", Biomedical signal processing and control, Volume 64, pp: 1-10, 1 Feb 2021. **(Science citation index expanded)** **(Impact factor: 5.1)**

34. Mukesh Dalal, Mamta Juneja, "Steganography and Steganalysis (in digital forensics): a Cybersecurity guide", Multimedia Tools and Applications, Volume 80, Issue: 4, pp: 5723-5771, February 2021. **(Science citation index, Impact factor: 3.6)**
35. Niharika Thakur, Mamta Juneja, "Pre-processing of retinal images for removal of outliers", Wireless Personal Communications, Volume 116, Issue 1, pp: 739-765, 1 Jan 2021. **(Science citation index expanded) (Impact factor: 2.2)**
36. Saurabh Sharma, Vishal Gupta, Mamta Juneja, "Diverse feature set based Keyphrase extraction and indexing techniques", Multimedia Tools and Applications, Volume 80, Issue 3, pp: 4111-4142, Jan 2021. **(Science citation index, Impact factor: 3.6)**

## 2020 (10)

37. Prashant Jindal, Frank Worcester, Francesco Luke Siena, Christopher Forbes, Mamta Juneja, Philip Breedon, "Mechanical behaviour of 3D printed vs thermoformed clear dental aligner materials under nonlinear compressive loading using FEM", Journal of the Mechanical Behavior of Biomedical Materials, Volume 112, pp: 1-7, 1 Dec 2020. **(Science citation index expanded) (Impact factor: 3.9)**
38. Niharika Thakur, Mamta Juneja, "Classification of Glaucoma using Hybrid Features with Machine Learning Approaches", Biomedical signal processing and control, Volume 62, pp: 1-19, 1 September 2020. **(Science citation index expanded) (Impact factor: 5.1)**
39. Mamta Juneja, Ridhima Singla, Sumindar Kaur Saini, Ravinder Kaur, Divya Bajaj, Prashant Jindal, "OCU-NET for occlusal classification of 3D dental models", Machine vision and Applications, Volume 31, Issue: 6, pp: 1-12, September 2020. **(Science citation index expanded) (Impact factor: 3.3)**
40. Mamta Juneja, Niharika Thakur, Sarthak Thakur, Anuj Wani, Archit Uniyal, Prashant Jindal, "GC-NET for classification of glaucoma in the retinal fundus image", Machine vision and Applications, Volume 31, Issue: 5, pp: 1-18, July 2020. **(Science citation index expanded) (Impact factor: 3.3)**
41. Mamta Juneja, Sarthak Thakur, Anuj Wani, Archit Uniyal, Niharika Thakur, Prashant Jindal, "DC-Gnet for detection of glaucoma in retinal fundus imaging", Machine vision and Applications, Volume 31, Issue: 34, pp: 1-14, July 2020. **(Science citation index expanded) (Impact factor: 3.3)**
42. Sumindar Kaur Saini, Vasudha Bansal, Ravinder Kaur, Mamta Juneja, "ColpoNet for Automated Cervical Cancer Screening Using Colposcopy Images", Machine vision and Applications, Volume 31, Issue: 3, pp: 1-15, 2020. **(Science citation index expanded, Impact factor: 3.3)**
43. Ravinder Kaur, Mamta Juneja, A. K. Mandal, "An overview of non-invasive imaging modalities for diagnosis of solid and cystic renal lesions.", Medical & biological engineering & computing, Volume 58, Issue 1, pp: 1-24, 2020. **(Science citation index expanded, Impact factor: 3.2)**

44. Mukesh Dalal, Mamta Juneja, "Evaluation of orthogonal and biorthogonal wavelets for video steganography." *Information Security Journal: A Global Perspective*, pp: 1-11, 2020. **(Scopus indexed)**
45. Niharika Thakur, Mamta Juneja, "Pre-Processing of Retinal Images acquired from Digital Fundus Cameras for Improved Performance of Diagnostic Tools in Biomedical Engineering", *Materials Today: Proceedings*, Volume 28, Issue 3, pp: 1525-1529, 2020. **(Scopus indexed)**
46. Jatin Garg, Sumindar Kaur Saini, Mamta Juneja, "Survey of Denoising and Segmentation Techniques for MRI Images of Prostate for Improving Diagnostic Tools in Medical Applications, *Materials Today: Proceedings*, Volume 28, Issue 3, pp: 1667-1672, 2020. **(Scopus indexed)**

## 2019 (13)

47. Ashish K Pathak, Ridhima Singla, Mamta Juneja, Rakesh Tuli, "Shortlisting genes important in seed maturation by principal component analysis of gene expression data." *BioRxiv* (2020). **(Accepted)**
48. Jindal P., Juneja M., Siena F. L., Bajaj D., Breedon, P., "Mechanical and geometric properties of thermoformed and 3D printed clear dental aligners.", *American Journal of Orthodontics and Dentofacial Orthopedics*, Volume 156, Issue 5, pp: 694-701, November 2019. **(Science citation indexed, Impact factor: 3)**
49. Prashant Jindal, Mamta Juneja, Divya Bajaj, Francesco Luke Siena, and Philip Breedon, "Effects of post-curing conditions on mechanical properties of 3D printed clear dental aligners". *Rapid Prototyping Journal*, Volume 156, Issue 5, pp: 694- 701, November 2019. **(Science citation index expanded, Impact factor: 3.9)**
50. Niharika Thakur, Mamta Juneja, "Optic disc and optic cup segmentation from retinal images using hybrid approach.", *Expert Systems with Applications*, Volume 127, pp: 308-322, August 2019. **(Science citation index expanded, Impact factor: 8.5)**
51. Himika Sharma, Rajnish Raj, Mamta Juneja, "EEG signal-based classification before and after combined Yoga and Sudarshan Kriya." *Neuroscience letters*, Volume 707, pp: 1-7, August 2019. **(Science citation index expanded, Impact factor: 2.5)**
52. Saurabh Sharma, Vishal Gupta, Mamta Juneja, "A survey of image data indexing techniques", *Artificial Intelligence Review*, Volume 52, Issue 2, pp:1189-1266, August 2019 **(Science citation index, Impact factor: 12)**
53. Ravinder Kaur, Mamta Juneja, A. K. Mandal, "Computer-aided diagnosis of renal lesions in CT images: A comprehensive survey and future prospects." *Computers & Electrical Engineering*, Volume 77, pp: 423-434, July 2019. **(Science citation index, Impact factor: 4.152)**
54. Ravinder Kaur, Mamta Juneja, AK Mandal, "A hybrid edge-based technique for segmentation of renal lesions in CT images", *Multimedia Tools and Applications*, Volume 78, Issue 10, pp: 12917-37, May 2019. **(Science citation index, Impact factor: 3.6)**
55. Gaurav Garg, Mamta Juneja, "A survey of denoising techniques for multiparametric prostate MRI", *Multimedia Tools and Applications*, Volume 78, Issue 10, pp: 12698-12722, May 2019. **(Science citation index, Impact factor: 3.6)**

56. Juneja M, Singh S, Agarwal N, Bali S, Gupta S, Thakur N, Jindal P. Automated detection of Glaucoma using deep learning convolution network (G-net). *Multimedia Tools and Applications*, Volume 79, pp:15531-15553, April 2019. **(Science citation index expanded, Impact factor: 3.6)**
57. Gill DK, Walia K, Rawat A, Bajaj D, Gupta VK, Gupta A, Juneja M, Tuli R, Jindal P. "3D modelling and printing of craniofacial implant template.", *Rapid Prototyping Journal*, Volume 25, Issue 2, pp: 397-403, March 2019. **(Science citation index expanded, Impact factor: 3.9)**
58. Mukesh Dalal, Mamta Juneja, "A robust and imperceptible steganography technique for SD and HD videos", *Multimedia Tools and Applications*, Volume 78, Issue 5, pp: 5769-5789, March 2019. **(Science citation index, Impact factor:3.6)**
59. Mukesh Dalal, Mamta Juneja, "An approach of Data Hiding in Video Steganography using Object Detection", *International Journal of Engineering and Advanced Technology*, Volume 8, Issue 5, pp: 2460-2466, 2019, ISSN: 2249-8958. **(Scopus indexed)**
- [2018 \(14\)](#)
60. Divya Bajaj, Ishan Madhav, Mamta Juneja, Rakesh Tuli, Prashant Jindal, "Methodology for Stress Measurement by Transparent Dental Aligners using Strain Gauge", *World journal of dentistry*, Volume 9, Issue 1, pp:13-18, 2018. **(Scopus indexed)**
61. Ravinder Kaur, Mamta Juneja, and A. K. Mandal, "A comprehensive review of denoising techniques for abdominal CT images", *Multimedia Tools and Applications*, Volume 77, Issue 17, pp: 22735-22770, September 2018, ISSN: 1380-7501 (Print) ISSN: 1573-7721 (Electronic). **(Science citation index, Impact factor: 3.6)**
62. Mamta Juneja, Niharika Thakur, Dinesh Kumar, Ankur Gupta, Babandeep Bajwa, Prashant Jindal, "Accuracy in dental surgical guide fabrication using different 3D printing techniques", *Additive manufacturing*, Volume 22, pp: 243-255, August 2018. **(Science citation index expanded, Impact factor: 11)**
63. Niharika Thakur, Mamta Juneja, "Survey on segmentation and classification approaches of optic cup and optic disc for diagnosis of glaucoma", *Biomedical signal processing and control*, Volume 42, pp: 162-189, April 2018, ISSN: 1746-8094. **(Science citation index, Impact factor: 5.1)**
64. Ravinder Kaur, Mamta Juneja, "A Survey on Kidney segmentation techniques in CT images", *Current Medical Imaging Reviews*, Volume 14, Issue 2, pp: 238-250, April 2018, ISSN: 1875-6603 (Online); ISSN: 1573-4056 (Print). **(Science citation index, Impact factor: 1.4)**
65. Gaurav Garg, Mamta Juneja, "A Survey of prostate segmentation techniques in different imaging modalities", *Current Medical Imaging Reviews*, Volume 14, Issue 1, pp: 19-46, February 2018, ISSN: 1875-6603 (Online), ISSN: 1573-4056 (Print). **(Science citation index, Impact factor: 1.315)**
66. Mukesh Dalal, Mamta Juneja, "Video Steganalysis to obstruct criminal activities for digital forensics: a survey", *International journal of electronic security and digital forensic*, pp: 338-355, 2018, ISSN: 1751-9128 (Online); ISSN: 1751-911X (Print). **(Scopus indexed)**
67. Manveer Kaur Saini, Mamta Juneja, Ajay Mittal, "Colorectal Cancer Detection from Colonoscopy Videos: A Comprehensive Survey of Computer-Aided Diagnosis Techniques", *International Journal of Engineering Technology Science and Research*, Volume 5, Issue 3, pp: 433-440, March 2018, ISSN 2394 - 3386.
68. Vasudha Bansal, Mamta Juneja, Ajay Mittal, "Cervix Cancer Classification using Colposcopy Images by Deep Learning Method", *International Journal of Engineering Technology Science and Research*, Volume 5, Issue 3, pp: 427-432, March 2018, ISSN 2394 - 3386.

69. Himika Sharma, Mamta Juneja, "Feature Extraction Methods for EEG signal Analysis: A Survey", International Journal of Electronics, Electrical and Computational System, Volume 7, Issue 3, pp:128-131, March 2018, ISSN 2348-117X.
70. Ramanpreet Kaur, Mukesh Kumar and Mamta Juneja, "Data Generation and Fruit Grading Using Different Classifiers", International Journal of Recent Research Aspects, Volume 5, Issue 1, pp: 189-196, March 2018, ISSN: 2349-7688.
71. Yakshita Jain, Mamta Juneja, "Ridge Energy Based Human Verification Using Iris and Palm Print", International Journal of Trend in Research and Development, Volume 5, Issue 2, pp: 30-36, 2018, ISSN: 2394-9333.
72. Mukesh Dalal, Mamta Juneja, "H.264/AVC Video Steganography Techniques: An Overview", International Journal of Computer Sciences and Engineering, Volume 6, Issue 5, pp: 297-303, 2018, E-ISSN: 2347-2693. **(Scopus indexed)**
73. Priyanka Thakur, Preeti Aggarwal, Mamta Juneja, "Contagious disease detection in cereals crops and classification as 'solid' or 'undesirable' an application of pattern recognition, image processing and machine learning algorithms", International Journal of Engineering & Technology, Volume 7, Issue 12, pp: 160-165, 2018. **(Scopus indexed)**

## 2017 (8)

74. Niharika Thakur, Mamta Juneja, "Clustering based approach for segmentation of optic cup and optic disc for detection of glaucoma", Current Medical Imaging Reviews, Volume 13, Issue 1, pp: 99-105, February 2017, ISSN: 1875-6603 (Online); ISSN: 1573-4056 (Print). **(Science citation index, Impact factor: 1.4)**
75. Niharika Thakur, Mamta Juneja, "Segmentation approaches of optic cup from retinal images: A Survey", International journal of control theory and applications, Volume 10, Issue 8, pp: 377-382, 2017, ISSN: 0974-5572. **(Scopus indexed)**
76. Niharika Thakur, Mamta Juneja, Prashant Jindal, "Tooth/Teeth Segmentation and modelling from X-ray/CT images: A Survey", International journal of control theory and applications, Volume 10, Issue 8, pp: 423-428, 2017, ISSN: 0974-5572. **(Scopus indexed)**
77. Himika Sharma, Mamta Juneja, "A survey to study the effect of meditation on brain signals", International journal of control theory and applications, Volume 10, Issue 8, pp: 751-754, 2017, ISSN: 0974-5572. **(Scopus indexed)**
78. Priyanka Thakur, Preeti Aggarwal, Mamta Juneja, "Plant disease detection and classification using image processing: A Review", International journal of Recent Research Aspects, Volume 4, Issue 3, pp: 22-27, September 2017, ISSN: 2349-7688.
79. Ramanpreet Kaur, Mukesh Kumar and Mamta Juneja, "Fruit grading by computer vision- A Review", International Journal of Recent Research Aspects, Volume 4, Issue 3, pp: 54-58, September 2017, ISSN: 2349-7688.
80. Niharika Thakur, Narender Chaudhary, Mamta Juneja, Prashant Jindal, "Modeling and Printing of successive misaligned teeth stages", World journal of dentistry, Volume 8, Issue 4, pp:1-6, August 2017, ISSN: 0976-6014. **(Scopus indexed)**
81. Mukesh Dalal, Mamta Juneja, "Overview of Video Steganography in Compressed Domain", International journal of control theory and applications, Volume 10, Issue 9, pp: 541-546, 2017, ISSN: 0974-5572. **(Scopus indexed)**

## 2016 (6)

82. Yakshita Jain, Mamta Juneja, "A review on iris and palm print based unimodal and multimodal biometric system", International Journal of Control Theory and Application, Volume 9, Issue 11, pp: 4993-5002, 2016, ISSN: 0974-5572. **(Scopus indexed)**
83. Ravinder Kaur, and Mamta Juneja, "A Survey of Different Imaging Modalities for Renal Cancer", Indian Journal of Science and Technology, Volume 9, Issue 44, pp: 1-6, 2016, ISSN: 0974-6846 (Print); ISSN: 0974-5645 (Online).
84. Garg, Gaurav, and Mamta Juneja, "Anatomical Visions of Prostate Cancer in Different Modalities", Indian Journal of Science and Technology, Volume 9, Issue 44, pp: 1-12, 2016, ISSN: 0974-6846 (Print); ISSN: 0974-5645 (Online).
85. Mohanjeet Kaur, Mamta Juneja, "Comparative Analysis of Image Steganography Methods", International Journal of Control Theory and Applications, Volume 9, Issue 10, pp: 4493-4500, 2016, ISSN: 0974-5572. **(Scopus indexed)**
86. Nirmala Pun and Mamta Juneja, "A hybrid approach in spatial domain for image steganography", International Journal of Control Theory and Applications, Volume 9, Issue 20, pp: 337-345, 2016, ISSN: 0974-5572. **(Scopus indexed)**
87. Nirmala Pun, Mamta Juneja, "Chaotic Pixel Value Differencing", International Journal of Image, Graphics and Signal Processing, Volume 8, Issue 4, pp: 54-60, 2016, ISSN: 2074-9074 (Print); ISSN: 2074-9082 (Online).

## 2015 (4)

88. Niharika Thakur, Mamta Juneja, "A Novel approach for segmentation of optic disc and optic cup for detection of glaucoma", International Journal of Applied Engineering Research, Volume 10, Issue 69, pp: 182-185, 2015, ISSN 0973-4562. **(Scopus indexed)**
89. Niharika Thakur, Mamta Juneja, "Review on segmentation techniques of optic disc and optic cup for glaucoma detection", International Journal of Applied Engineering Research, Volume 10, Issue 10, pp: 9615-9619, 2015, ISSN 0973-4562. **(Scopus indexed)**
90. Nirmala, Mamta Juneja, "Survey of hybrid PVD and LSB steganographic approaches", International Journal of Applied Engineering Research, Volume 10, Issue 10, pp: 9938-41, 2015, ISSN 0973-4562. **(Scopus indexed)**
91. Deepali, Mamta Juneja, "An Information Hiding Technique using Fuzzy Intuitionistic", International Journal of Applied Engineering Research, Volume 10, Issue 10, pp: 9782-89, 2015, ISSN 0973-4562. **(Scopus indexed)**

## 2014 (13)

92. Niharika Thakur, Mamta Juneja, "Analysis of Various Techniques used for optic disc and optic cup segmentation for Glaucoma Diagnosis", International Journal of Advanced Research in



Computer Science and Software Engineering, Volume 4, Issue 12, pp: 933-936, December 2014, ISSN: 2277-6451.

93. Navjot Kaur, Mamta Juneja, "An Iris Localization Method for Non-Ideal Eye Images", Journal of Emerging Technologies in Web Intelligence, Volume 6, Issue 4, pp: 460-62, November 2014, ISSN: 1799-8859 (Online); 1798-0461 (Print).
94. Mamta, "A Covert Communication Model-Based on Image Steganography", International Journal of Information Security and Privacy, Volume 8, Issue 1, pp: 19-37. 2014, ISSN: 1930-1650, EISSN: 1930-1669. **(Scopus indexed)**
95. Deepali, Mamta Juneja, "New Information Hiding Technique using Features of Image", Journal of Emerging Technologies in Web Intelligence, Volume 6, Issue 2, pp: 237-242, May 2014, ISSN 1798-0461(Print); 1799-8859 (Online).
96. Navjot Kaur, Mamta Juneja, "A Novel Approach for Iris Recognition in Unconstrained Environment", Journal of Emerging Technologies in Web Intelligence, Volume 6, Issue 2, pp: 243-246, May 2014, ISSN 1798-0461(Print); 1799-8859 (Online).
97. Savita, Mamta Juneja, "High Capacity Information Hiding System for Encrypted Text Message Using Pixel Intensity Based LSB Substitution Technique", International Journal of Computer Science Issues, Volume 11, Issue 2, pp: 159-166, March 2014, ISSN 1694-0814.
98. Navjot Kaur, Mamta Juneja, "Analysis of Iris Recognition Methods for Various Environments", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 3, pp 1194-1198, March 2014, ISSN: 2277 128X.
99. Deepali, Mamta Juneja, "A New Edge Based Image Steganography Technique for RGB Images", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 3, pp: 1377-1381, March 2014, ISSN: 2277 128X.
100. Savita, Mamta Juneja, "High Capacity and Statistical Attacks Resistant Reversible Image Data Hiding Scheme using LSB Substitution", International Journal of Computer Applications, Volume 92, Issue 12, pp: 12-18, April 2014, ISSN 0975 - 8887.
101. Navneet Kaur, Mamta Juneja, "Detecting, Demarking and Quantifying Brain Tumor using a Hybrid Approach", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 4, Issue 4, pp 93-97, April 2014, ISSN: 2277 128X.
102. Navneet Kaur, Mamta Juneja, "A Novel Approach of Brain Tumor Detection Using Hybrid Filtering", International Journal of Engineering Research and Applications, Volume 4, Issue 5, pp: 100-104, May 2014, ISSN: 2248-9622.
103. Navneet Kaur, Mamta Juneja, "Brain Tumor Detection, Demarcation and Quantification via MRI", International Journal of Computer Applications, Volume 87, Issue 18, pp: 8-12, February 2014, ISSN: 0975 - 8887.
104. Mamta Juneja, Parvinder Singh Sandhu, "Improved LSB based Steganography Techniques for Color Images in Spatial Domain", International Journal of Network Security (IJNS), Volume 16, Issue 4, pp: 366-376, July, 2014, ISSN:1816-353X (Print); ISSN 1816-3548 (Online).

## 2013 (11)

105. Mamta Juneja, Parvinder Singh Sandhu, "A New Approach for Information Security using Improved Steganography Technique", Journal of Information Processing Systems (JIPS), Volume 9, Issue 3, pp: 405-424, September 2013, ISSN: 1976-913X. **(Scopus indexed)**

106. Savita, Mamta Juneja, "A Review on Image Steganography", International Journal of Scientific & Engineering Research, Volume 4, Issue 5, pp: 1588-1601, May 2013, ISSN 2229-5518.
107. Mamta Juneja, Parvinder Singh Sandhu, "A New Approach for Information Hiding in RGB color images with Improved PSNR and Hiding Capacity", International Journal of Innovative Computing, Information and control, Volume 7, Issue 9, pp: 2639-2644, September 2013, ISSN 1881-803X. **(Scopus indexed)**
108. Mamta Juneja, Parvinder Singh Sandhu, "Information Hiding using Improved LSB Steganography and Feature Detection Technique", International Journal of Engineering and Advanced Technology (IJEAT), Volume 2, Issue 4, pp: 275-279, April 2013, ISSN: 2249 - 8958. **(Scopus indexed)**
109. Mamta Juneja, Parvinder Singh Sandhu, "A New Approach for Information Hiding in Color Images using Adaptive Steganography and Hybrid Feature Detection with Improved PSNR and Capacity ", International Journal of Engineering and Technology (IJET), Volume 5, Issue 2, pp: 1853-1862, Apr-May, 2013, ISSN: 0975-4024.
110. Mamta Juneja, Parvinder Singh Sandhu, "Data Hiding with Enhanced LSB Steganography and Cryptography for RGB Color Images", Indian Journal of Applied Research, Volume 3, Issue 5, pp: 118-120, May 2013, ISSN: 2249-555X.
111. Mamta Juneja, Parvinder Singh Sandhu, "A Review of Cryptography Techniques and Implementation of AES for Images", International Journal of Computer Science and Electronics Engineering (IJCSEE), Volume 1, Issue 4, pp: 478-482, 2013, ISSN: 2320-401X; EISSN: 2320-4028.
112. Mamta Juneja and Parvinder S. Sandhu, "An Analysis of LSB Image Steganography Techniques in Spatial Domain", International Journal of Computer Science and Electronics Engineering (IJCSEE), Volume 1, Issue 2, pp: 239-244, 2013, ISSN: 2320-401X.
113. Mamta Juneja, Parvinder Singh Sandhu, "An Analysis of Edge Detectors and Improved Hybrid Technique for Edge Detection of Images", International Journal of Computer Science and Electronics Engineering (IJCSEE), Volume 1, Issue 4, pp: 469-477, 2013, ISSN: 2320-401X; EISSN: 2320-4028.
114. Mamta Juneja and Parvinder S. Sandhu, "Two Components based LSB and Adaptive LSB Steganography based on Hybrid Feature Detection for Color Images with improved PSNR and Capacity", Journal of Computer Science and Electronics Engineering (IJCSEE), Volume 1, Issue 2, pp: 345-351, 2013, ISSN: 2320-401X.
115. Mamta Juneja, Parvinder Singh. "An improved LSB based steganography technique for RGB color images", International Journal of Computer and Communication Engineering, Volume 2, Issue 4, 2013.

## 2012 (1)

116. Mamta Juneja, Parvinder Singh Sandhu, "An Improved LSB based Steganography with Enhanced Security and Embedding/Extraction", Pragyaa: Journal of Information Technology, Volume 10, Issue 2, pp:1-8, December 2012, ISSN:0974-5513.

## 2009(8)

117. Rajni Mohana, Mamta Juneja, "Automatic Generation of Fuzzy Rules for Fuzzy Databases Using Particle Swarm Optimization", *Artificial Intelligent Systems and Machine Learning*, Volume 1, Issue 8, pp: 248-251, 2009, Print ISSN: 0974 - 9667; Online ISSN: 0974 - 9543.
118. Mamta Juneja, Neeru, "Design and Development of improved boundary detection technique using Hough Transform in spatial domain", *Pragyaan: Information technology*, Listed in Ulrich's International Periodicals Directory, Volume 7, Issue 1, pp: 1-7, June 2009, ISSN: 0974-5513.
119. Mamta Juneja, Parvinder Singh Sandhu, "Performance Evaluation of Edge Detection Techniques for Images in spatial Domain", *International Journal of Computer Theory and Engineering (IJCTE)*, Volume 1, Issue 5, pp: 609-616, December 2009, ISSN: 1793-821X.
120. Mamta Juneja, Parvinder Singh Sandhu, "Image Segmentation based quality analysis of agricultural products using emboss filter and Hough Transform in Spatial Domain", *Researcher-an International Science Journal*, Volume 1, Issue 5, pp: 62-68, 2009, ISSN 1553-9865.
121. Mamta Juneja, Rajni Mohana, "Image Segmentation Based Steganography model with increased security for information transmission", *CIIT international Journal of Digital image processing*, Volume 1, Issue 6, pp: 221-225, September 2009, ISSN 0974-9691 (Print); ISSN 0974-9586(Online).
122. Mamta Juneja, Parvinder Singh Sandhu, "Implementation of improved Steganographic technique for 24bit Bitmap images in communication", *Journal of American Science*, Mars land Press, Volume 5, Issue 2, pp: 36-42, 2009, ISSN:1545-1003.
123. Mamta Juneja, Rajni Mohana, "An improved adaptive median filtering method for impulse noise", *International Journal of recent trends in Engineering (Computer Science)*, Volume 1, Issue 1, pp: 274-278, May 2009, ISSN 1797-9617.
124. Mamta Juneja, Parvinder Singh Sandhu, "An improved form of LSB based Steganography Technique", *International Journal of Computer & Electrical Engineering*, Volume 1, Issue 5, pp: 653-57, December 2009, ISSN: 1793-8198 (Online); 1793-8163 (Print).

## 2008(1)

125. Mamta Juneja, Neeru, "An improved form of LSB based Steganography Technique", *Pragyaan: Information Technology* Listed in Ulrich's International Periodicals Directory, Volume 6, Issue 2, pp: 1-4, December 2008, ISSN: 0974-5513.

## **BOOK CHAPTERS: 25**

1. Juneja, M., Saini, S.K., Kaur, H., Aggarwal, N. (2023). Machine Learning Techniques in Computer-Aided Diagnosis for Effective Detection of Malignant Tissues. In: Sobti, R.C., Ganguly, N.K., Kumar, R. (eds) *Handbook of Oncobiology: From Basic to Clinical Sciences*. Springer, Singapore. Published: 29 September 2023, Online ISBN 978-981-99-2196-6, Print ISBN: 978-981-99-2196-6 [https://doi.org/10.1007/978-981-99-2196-6\\_34-1](https://doi.org/10.1007/978-981-99-2196-6_34-1)
2. Aggarwal, N., Saini, S.K., Baghel, S., Juneja, M. (2023). Deep Learning Techniques for Computer Aided Diagnosis of Various Cancers. In: Sobti, R.C., Ganguly, N.K., Kumar, R. (eds) *Handbook of Oncobiology: From Basic to Clinical Sciences*. Springer, Singapore. [https://doi.org/10.1007/978-981-99-2196-6\\_35-1](https://doi.org/10.1007/978-981-99-2196-6_35-1), Published: 22 September 2023, Online ISBN: 978-981-99-2196-6, Print ISBN: 978-981-99-2196-6

3. Saurabh Shrama, Vishal Gupta, Mamta Juneja, "Deep Neural Models for Key-phrase Indexing", Pervasive Computing and Social Networking, Volume 317, ISBN: 978-981-16-5640-8, DOI: [https://doi.org/10.1007/978-981-16-5640-8\\_37](https://doi.org/10.1007/978-981-16-5640-8_37), Springer, Singapore, 2022.
4. Harjinder Kaur, Deepti Gupta, Mamta Juneja, "Denoising of Computed Tomography images for improved performance of medical devices in Biomedical engineering", Communications in Computer and Information Science, Volume 144, ISBN: 978-3-030-88243-3, DOI: [https://doi.org/10.1007/978-3-030-88244-0\\_14](https://doi.org/10.1007/978-3-030-88244-0_14), Springer, Cham, 2021.
5. Mamta Juneja, Jannat Chawla, Sumindar Kaur Saini, Divya Bajaj, Prashant Jindal, "CoTusk: IoT based tooth shade detecting device", International Conference on IoT Inclusive life (ICILL 2019), Lecture Notes in Networks and Systems, Volume 116, ISSN 2367-3370, ISBN 978-981-15-3019-7, DOI: <https://link.springer.com/book/10.1007%2F978-981-15-3020-3>, Springer Singapore, pp: 201-207, 2020.
6. Prashant Jindal, Rashi Aditi Rajan, Poojita Garg, Pranav Raj, Parneet Kaur, Varun Karan, Ishaan Madhav, Mamta Juneja, "Evaluation of hand movement using IoT based goniometric data acquisition glove", International Conference on IoT Inclusive life (ICILL 2019), Lecture Notes in Networks and Systems, Volume 116, ISSN 2367-3370, ISBN 978-981-15-3019-7, DOI: <https://link.springer.com/book/10.1007%2F978-981-15-3020-3>, Springer Singapore, pp: 193-200, 2020.
7. Dhall, Devanshi, Ravinder Kaur, and Mamta Juneja. "Machine Learning: A Review of the Algorithms and Its Applications." *Proceedings of ICRIC 2019*. Lecture Notes in Electrical Engineering, Volume 597, ISSN: 1876-1100, ISBN 978-3-030-29406-9, DOI: <https://doi.org/10.1007/978-3-030-29407-6>, Springer, Cham, pp: 47-63, 2019.
8. Divya Bajaj, Aditi Rawat, Deepkamal Kaur Gill, Mamta Juneja, Prashant Jindal, "Efficacy of Softwares for Generation of Dental Aligners", In Proceedings of 2nd International Conference on Communication, Computing and Networking, Lecture Notes in Networks and Systems, Volume 46, ISSN 2367-3370, ISBN 978-981-13-1216-8, DOI: <https://doi.org/10.1007/978-981-13-1217-5>, Springer Singapore, pp: 783-794, 2018.
9. Aditi Rawat, Deepkamal Kaur Gill, Divya Bajaj, Mamta Juneja, Anand Gupta, Prashant Jindal, "Craniofacial Model Generation Using CAD/CAM Software". In Proceedings of 2nd International Conference on Communication, Computing and Networking, Lecture Notes in Networks and Systems, Volume 46, ISSN 2367-3370, ISBN 978-981-13-1216-8, DOI: <https://doi.org/10.1007/978-981-13-1217-5>, Springer Singapore, pp: 795-803, 2018.
10. Deepkamal Kaur Gill, Divya Bajaj, Aditi Rawat, Yash Gopal Mittal, Mamta Juneja, Prashant Jindal, "Dimensional Accuracy of Surgical Guides Fabricated from Different Materials Using 3D Printer", In Proceedings of 2nd International Conference on Communication, Computing and Networking, , Lecture Notes in Networks and Systems, Volume 46, ISSN 2367-3370, ISBN 978-981-13-1216-8, DOI: <https://doi.org/10.1007/978-981-13-1217-5>, Springer Singapore, pp: 805-813, 2018.
11. Mukesh Dalal, Mamta Juneja, " Video Steganography Techniques in Spatial Domain- a Survey", In proceedings of International Conference on Computing and Communication Systems, Lecture Notes in Networks and Systems, Vol. 24, eBook ISBN: 978-981-10-6890-4, Hardcover ISBN: 978-981-10-6889-8, DOI: [https://doi.org/10.1007/978-981-10-6890-4\\_67](https://doi.org/10.1007/978-981-10-6890-4_67), Springer, Singapore, pp: 705- 711 2018.
12. Gaurav Garg, Mamta Juneja, "Cancer Detection with Prostate Zonal Segmentation-A Review", Computing and Communication Systems, Lecture Notes in Networks and Systems, Volume 24, eBook ISBN: 978-981-10-6890-4, Hardcover ISBN: 978-981-10-6889-8, DOI: [https://doi.org/10.1007/978-981-10-6890-4\\_79](https://doi.org/10.1007/978-981-10-6890-4_79), pp: 829-835, Springer, Singapore, 2018.

13. Yakshita Jain, Mamta Juneja, "A novel approach for multimodal biometric system using iris and palm print", " In proceedings of International Conference on Advanced Computing and Intelligent Engineering, Advances in Intelligent Systems and Computing, Volume 563, eBook ISBN: 978-981-10-6872-0, Hardcover ISBN: 978-981-10-6871-3, DOI: [https://doi.org/10.1007/978-981-10-6872-0\\_8](https://doi.org/10.1007/978-981-10-6872-0_8), Springer Singapore, pp: 79-88, 2018.
14. Ramanpreet Kaur, Mukesh Kumar, Mamta Juneja, "Local tetra pattern-based fruit grading using different classifiers", In proceedings of International Conference on Frontiers of Intelligent Computing: Theory and applications, Advances in Intelligent Systems and Computing , vol 695, eBook ISBN: 978-981-10-7566-7, Hardcover ISBN: 978-981-10-7565-0, DOI: [https://doi.org/10.1007/978-981-10-7566-7\\_28](https://doi.org/10.1007/978-981-10-7566-7_28), Springer, Singapore, pp: 273-284, 2018.
15. Gaurav Garg, Mamta Juneja, "A Survey on Computer Aided Detection Techniques of Prostate Cancer", Advances in Intelligent Systems and Computing, Volume 564, eBook ISBN: 978-981-10-6875-1, Hardcover ISBN: 978-981-10-6874-4, DOI: [https://doi.org/10.1007/978-981-10-6875-1\\_12](https://doi.org/10.1007/978-981-10-6875-1_12), Springer Singapore, pp: 115-125, 2017.
16. Niharika Thakur, Mamta Juneja, "Survey of classification approaches for Glaucoma diagnosis from retinal images", Advanced Computing & Communication Technologies, Volume 562, eBook ISBN:978-981-10-4603-2,Hardcover ISBN: 978-981-10-4602-5, DOI:[https://doi.org/10.1007/978-981-10-4603-2\\_10](https://doi.org/10.1007/978-981-10-4603-2_10), Springer Singapore, pp: 91-99, 2017.
17. Ravinder Kaur, Mamta Juneja, " Comparison of Different Renal Imaging Modalities: An Overview", Progress in intelligent computing techniques: theory, practice and applications, Volume 518, ebook ISBN: 978-981-10-3373-5, Hardcover ISBN: 978-981-10-3372-8, DOI: [https://doi.org/10.1007/978-981-10-3373-5\\_4](https://doi.org/10.1007/978-981-10-3373-5_4), Springer Singapore, pp: 47-57, 2017.
18. Yakshita Jain, Mamta Juneja, "A comparative analysis of iris and palm print based Unimodal and Multimodal Biometric systems", Innovations in Computer Science & Engineering, Volume 8, ebook ISBN: 978-981-10-3818-1, Hardcover ISBN: 978-981-10-3817-4, DOI: [https://doi.org/10.1007/978-981-10-3818-1\\_19](https://doi.org/10.1007/978-981-10-3818-1_19), pp: 297-306, 2017.
19. Mohanjeet kaur, Mamta Juneja, "Adaptive Block Based Steganographic Model with Dynamic Block Estimation with Fuzzy Rules", Innovations in Computer Science & Engineering, Volume 8, ebook ISBN: 978-981-10-3818-1, Hardcover ISBN: 978-981-10-3817-4, DOI: [https://doi.org/10.1007/978-981-10-3818-1\\_19](https://doi.org/10.1007/978-981-10-3818-1_19), pp: 167-176, Springer Singapore, 2017.
20. Niharika Thakur, Mamta Juneja, "Comparative Analysis on Optic Cup and Optic Disc Segmentation Techniques for Glaucoma Diagnosis", Proceedings of 3<sup>rd</sup> International Conference on Advanced Computing, Networking and Informatics, Smart Innovation, Systems and Technologies, Volume 43, eBook ISBN: 978-81-322-2538-6, Hardcover ISBN: 978-81-322-2537-9,DOI : [10.1007/978-81-322-2538-6](https://doi.org/10.1007/978-81-322-2538-6),Series ISSN:2190-3018,pp: 219-223,Springer India, 2015.
21. Navjot, Mamta Juneja, "Segmentation Approach for Iris Recognition in Less Constrained Environment", Computational Advancement in Communication Circuits and Systems, Lecture Notes in Electrical Engineering, Volume 335, ISBN 978-81-322-2273-6 ISBN 978-81-322-2274-3 (eBook),DOI [10.1007/978-81-322-2274-3](https://doi.org/10.1007/978-81-322-2274-3),Springer India, 2015.
22. Navjot, Mamta Juneja, "A Hybrid Approach for Iris Recognition in Unconstrained Environment", Computational Vision and Robotics, Advances in Intelligent Systems and Computing, Volume 332, pp: 145-50 ,ISBN 978-81-322-2195-1 ISBN 978-81-322-2196-8 (eBook),DOI [10.1007/978-81-322-2196-8](https://doi.org/10.1007/978-81-322-2196-8) ,Springer India, 2014.

23. Savita, Mamta Juneja, "A Novel Approach for Data Hiding in Color Images Using LSB Based Steganography with Improved Capacity and Resistance to Statistical Attacks", *Intelligent Computing, Communication and Devices*, Volume 309, eBook ISBN: 978-81-322-2009-1, Hardcover ISBN: 978-81-322-2008-4 ,DOI:[https://doi.org/10.1007/978-81-322-2009-1\\_21](https://doi.org/10.1007/978-81-322-2009-1_21), Springer Publisher, Page no. 183-190, 2014.
24. Deepali, Mamta Juneja, "Hybrid Edge Detection-Based Image Steganography Technique for Color Images", *Intelligent Computing, Communication and Devices, Advances in Intelligent Systems and Computing*, Springer Publisher, Volume 309, eBook ISBN: 978-81-322-2009-1, Hardcover ISBN: 978-81-322-2008-4, DOI:[https://doi.org/10.1007/978-81-322-2009-1\\_32](https://doi.org/10.1007/978-81-322-2009-1_32), pp: 277-280, 2014.
25. Mamta Juneja, Parvinder Singh Sandhu, "Image Segmentation and Steganography for Secure Information Transmission", *Information Processing and Management*, Volume 70, eBook ISBN: 978-3-642-12214-9, Hardcover ISBN: 978-3-642-12213-2, DOI: [https://doi.org/10.1007/978-3-642-12214-9\\_114](https://doi.org/10.1007/978-3-642-12214-9_114) , Springer Publisher, pp: 617-620, 2009.

### **CONFERENCE PROCEEDINGS:24**

1. Saurabh Sharma, Vishal Gupta, Mamta Juneja. "Sparse Code based Indexing for Image Retrieval". In *IEEE proceedings of International Conference on Artificial Intelligence and Smart Systems (ICAIS) 2021*, pp. 1088-1094, 25 Mar 2021.
2. Priyanka Thakur, Preeti Aggarwal, Mamta Juneja, "Fungal Disease Detection in cereal crops and classification as 'healthy' and 'unhealthy': An application of pattern recognition, image processing and machine learning algorithms", *Special Issue on conscientious and impeachable technology in Innovative trends in the areas of Engineering, Science and Management*, November 2017.
3. Mohanjeet Kaur, Mamta Juneja, "A New LSB embedding for 24-bit pixel using Multi-Layered Bitwise XOR", In *IEEE proceedings of International Conference on Inventive Computation Technologies*, pp.167-176, 2016.
4. Navjot Kaur, Mamta Juneja, "A review on iris recognition" , In *Proceedings of Recent Advances in Engineering and Computational Sciences (RAECS)*, pp. 1-5, 2014.
5. Deepali Singla, Mamta Juneja, "An analysis of edge based image steganography techniques in spatial domain", In *IEEE proceedings of Recent Advances in Engineering and Computational Sciences (RAECS)*, pp. 1-5, 2014.
6. Mamta Juneja, Parvinder S. Sandhu, "A New Approach for Feature Extraction of an Image", 3rd *International Conference on Intelligent Computational Systems (ICICS 2013)*, Hong Kong (China), pp: 21-28.
7. Parvinder Singh Sandhu, Mamta Juneja, "Image Segmentation based improved Steganography technique with increased security for communication", *International symposium on computing, communication and control (ISCCC-2009)*, Singapore, pp: 530-33.
8. Mamta Juneja, Parvinder Singh Sandhu, "Designing of robust image steganography technique based on LSB insertion and encryption", *International conference on Advances in recent technologies in communication and computing (ARTCOM-2009)*, Kottayam, Kerala, India, pp: 302-305.
9. Mamta Juneja, Parvinder Singh Sandhu, Rajni Mohana, "Implementation and comparative analysis of rough set, ANN and fuzzy rough classifiers for satellite image classification", *International Conference on Intelligent Agent & Multi-Agent Systems (IAMA-2009)*, Chennai, India, pp: 1-6.
10. Mamta Juneja, Rajni Mohana, Dinesh Kumar, Manpreet Singh Bedi, "Automatic generation of fuzzy rules from data by fuzzy clustering and particle swarm optimization", *International Conference on Intelligent Agent & Multi-Agent Systems (IAMA 2009)*, Chennai, India, pp: 1-6.

11. Parvinder Singh Sandhu, Mamta Juneja, Ekta Walia, "Comparative analysis of edge detection techniques for extracting refined boundaries", International Conference on Machine learning and Computing, (ICMLC 2009), Perth Australia, pp: 1-10.
12. Mamta Juneja, Parvinder Singh Sandhu, Ekta Walia, "Application of LSB based Steganographic technique for 8-bit color images", (WCSET 2009), Penang, Malaysia, pp: 423-425.
13. Mamta Juneja, "Image Steganalysis using LSB based algorithm for similarity measures" International Conference on Web Sciences (ICWS-2009), KLCE, Koneru , Andhra Pradesh, India, pp: 373-379.
14. Mamta Juneja, Parvinder Singh Sandhu, Rajni Mohana, Amrit Kaur, "An improved Image Steganalysis technique for LSB encoding" International conference on Intelligent Systems and Networks, (IISN-2009), Kalwad, Ambala, India, pp: 231-234.
15. Mamta Juneja, Rajni Mohana, "An Improved Image Compression Technique using Principal component Analysis", International Conference on Emerging Trends in Electronics and Communications (ICETEC-2009), Indo Global Engineering College.
16. Mamta Juneja, Reetika, Neeru, " Virtualization", International Conference on Innovation in Information and Communication Technology.
17. Mamta Juneja, Parivder Singh Sandhu, "Implementation of Information Security through various Steganographic Techniques for Internet", National Conference on Information Security and Networks (ISAN- 2009), Chitkara.
18. Mamta Juneja, Neeru, Ritika Bhateja, " A new steganographic method for Palette-Based images", International conference on Wireless Networks and Embedded System (WECON-2008), Chitkara, pp: 414-17.
19. Mamta Juneja, Neeru, Ritika Bhateja, "Image segmentation based on multi- scan constraint satisfaction neural network", In proceedings of international conference on Wireless Networks and Embedded System (WECON-2008), Chitkara pp: 418-22.
20. Mamta Juneja, Ritika Bhateja, "The tools and methods of simulation modeling in dynamic E-business environment", In proceedings of International conference on Wireless Networks and Embedded System, (WECON-2008), Chitkara, pp: 691-94.
21. Mamta Juneja, Ritika, Nitika, "Multimedia Security: Watermarking Techniques", In proceedings of 2<sup>nd</sup> National Conference on Information and Emerging Technologies (NCIET-2007) IET, BHADDAL, pp 322-25.
22. Mamta Juneja, Ritika, Nitika, "Advanced Databases: Transaction Processing System", In Proceedings of 2<sup>nd</sup> National Conference on Information and Emerging Technologies (NCIET-2007) IET, BHADDAL, pp.70-77.
23. Mamta Juneja, Ritika, Nitika, "Speech Recognition using Neural Networks", In proceedings of 2<sup>nd</sup> National Conference on Information and Emerging Technologies (NCIET-2007) IET, BHADDAL, pp 268-278.
24. Mamta Juneja, Nitika, "Data Mining and its Scope", In proceedings of National Conference on Challenges and opportunities in Information Technology COIT 2007, RIMT, Mandi-Gobindgarh.

## **ANNEXURE II: INTERNATIONAL CONFERENCE PRESENTATIONS: 32**

1. Mamta Juneja, (12th-13th October, 2023), "Iot Based Motion And Grip Sensing Glove" in INTERNATIONAL CONFERENCE ON INDUSTRY FOCUSED RESEARCH (ICIFR - TEC 2023) at Panjab University, Chandigarh.
2. Harjinder Kaur, Deepti Gupta, Mamta Juneja,(23rd-24th April, 2021), "Denoising of Computed Tomography images for improved performance of medical devices in Biomedical engineering",International Conference on Advances in Computing and Data Sciences, ICACDS

2021, MVPS'S Karmaveer Adv. Baburao Thakare College of Engineering, Nashik, Maharashtra, India.

3. Saurabh Shrama, Vishal Gupta, Mamta Juneja, (25th-27th March, 2021), "Sparse Code based Indexing for Image Retrieval", In proceedings of International conference on Artificial Intelligence and Smart Systems, ICAIS 2021, JCT College of Engineering and Technology, Coimbatore, India.
4. Saurabh Shrama, Vishal Gupta, Mamta Juneja, (19th-20th March, 2021), "Deep Neural Models for Key-phrase Indexing", In Proceedings of International Conference on Pervasive Computing and Social Networking, ICPCSN 2021, Narasu's Sarathy Institute of Technology, Salem, India.
5. Piyush Kumar Mallya, Mamta Juneja, (5th-6th March, 2021), "Rapid prototyping of orthopedic implant materials for cranio-facial reconstruction: A Survey." Materials Today: Proceedings, ICAMSE 2021, Organised by UIET, Panjab University, Chandigarh at Hyatt Regency, Chandigarh, India.
6. Niharika Thakur, Mamta Juneja, (5th-6th March, 2021), "Early-stage prediction of glaucoma disease to reduce surgical requirements using deep-learning." Materials Today: Proceedings, ICAMSE 2021, Organised by UIET, Panjab University, Chandigarh at Hyatt Regency, Chandigarh, India.
7. Niharika Thakur, Mamta Juneja, (29th-30th May, 2020), "Pre-Processing of Retinal Images acquired from Digital Fundus Cameras for Improved Performance of Diagnostic Tools in Biomedical Engineering", International Conference on Aspects of Materials Science and Engineering, ICAMSE 2020, UIET, Organised by Panjab University Chandigarh, India.
8. Mamta Juneja, Jannat Chawla, Sumindar Kaur Saini, Divya Bajaj, Prashant Jindal, (19th-20th December, 2019), "CoTusk: IoT based tooth shade detecting device", International Conference on IoT Inclusive life (ICILL 2019), Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India.
9. Prashant Jindal, Rashi Aditi Rajan, Poojita Garg, Pranav Raj, Parneet Kaur, Varun Karan, Ishaan Madhav, Mamta Juneja, (19th-20th December, 2019), "Evaluation of hand movement using IoT based goniometric data acquisition glove", International Conference on IoT Inclusive life (ICILL 2019), Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India.
10. Mamta Juneja, (15<sup>th</sup>-21<sup>st</sup> July, 2018), "A comparative analysis of different materials and rapid prototyping techniques for 3D printing of surgical guides", 26th Annual International Conference on Composites or Nano Engineering, Paris, France.
11. Divya Bajaj, Aditi Rawat, Deepkamal Kaur Gill, Mamta Juneja, Prashant Jindal, (29th-30th March, 2018), "Efficacy of Softwares for generation of Dental Aligners", International Conference on Communication, Computing and Networking (ICCCN 2018), Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research, Sector 26, Chandigarh, India.
12. Aditi Rawat, Deepkamal Kaur Gill, Divya Bajaj, Mamta Juneja, Anand Gupta, Prashant Jindal, (29th-30th March, 2018), "Craniofacial model generation using CAD/CAM software", International Conference on Communication, Computing and Networking (ICCCN 2018), Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research, Sector 26, Chandigarh, India.
13. Mamta Juneja, (29<sup>th</sup>-30<sup>th</sup> March 2018), "Dimensional Accuracy of Surgical Guides fabricated from Different materials using 3D Printer", International conference on communication, computing and networking (ICCCN 2018), Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, India.
14. Himika Sharma, Mamta Juneja, (11<sup>th</sup> March, 2018), "Feature Extraction Methods for EEG signal Analysis: A Survey", International Conference on Research Trends in Engineering, Applied



Science and Management (ICRTE SM-2018), Indian Council of Social Science Research, North West Regional Centre, Panjab University Chandigarh, India.

15. Vasudha Bansal, Mamta Juneja, Ajay Mittal, (11<sup>th</sup> March, 2018), "Cervix Cancer Classification using Colposcopy Images by Deep Learning Method", International Conference on Research Trends in Engineering, Applied Science and Management (ICRTE SM-2018), Indian Council of Social Science Research, North West Regional Centre, Panjab University Chandigarh, India.
16. Manveer Kaur Saini, Mamta Juneja, Ajay Mittal, (11<sup>th</sup> March, 2018), "Colorectal Cancer Detection from Colonoscopy Videos: A Comprehensive Survey of Computer-Aided Diagnosis Techniques", International Conference on Research Trends in Engineering, Applied Science and Management (ICRTE SM-2018), Indian Council of Social Science Research, North West Regional Centre, Panjab University Chandigarh, India.
17. Himika Sharma, Mamta Juneja, (20<sup>th</sup>-22<sup>nd</sup> December 2016), "A survey to study the effect of meditation on brain signals", International Conference on Intelligent Computing and Applications (ICICA 2016), D.Y. Patil College of Engineering, Akrudi, Pune, Maharashtra, India.
18. Niharika Thakur, Mamta Juneja (20<sup>th</sup>-22<sup>nd</sup> December 2016), "Segmentation approaches of optic cup from retinal images: A Survey", International Conference on Intelligent Computing and Applications (ICICA 2016), D.Y. Patil College of Engineering, Akrudi, Pune, Maharashtra, India.
19. Niharika Thakur, Mamta Juneja (20<sup>th</sup>-22<sup>nd</sup> December 2016), "Tooth/Teeth Segmentation and modeling from X-ray/CT images: A Survey", International Conference on Intelligent Computing and Applications (ICICA 2016), D.Y. Patil College of Engineering, Akrudi, Pune, Maharashtra, India.
20. Niharika Thakur, and Mamta Juneja (18<sup>th</sup>-20<sup>th</sup> November 2016), "Survey of Classification Approaches for Glaucoma Diagnosis from Retinal Images." 11<sup>th</sup> International Conference on Advanced Computing & Communication Technologies (ICACCT 2016), Asia Pacific Institute of Information Technology SD India, Panipat, Haryana.
21. Mukesh Dalal and Mamta Juneja (20<sup>th</sup>-22<sup>nd</sup> December 2016), "Overview of Video Steganography in Compressed Domain", International Conference on Intelligent Computing and Applications (ICICA 2016), D.Y. Patil College of Engineering, Akrudi, Pune, Maharashtra, India.
22. Ravinder Kaur and Mamta Juneja (8<sup>th</sup>- 9<sup>th</sup> April, 2016), "A Survey of Different Imaging Modalities for Renal Cancer", 3<sup>rd</sup> International Conference on Computing Sciences (ICCS 2016), Shannon 100 LPU Conference, LPU, Jalandhar, India.
23. Ravinder and Mamta Juneja (22<sup>nd</sup>-24<sup>th</sup> September, 2016), "Comparison of Different Renal Imaging Modalities: An Overview", Sixth International Conference on Advanced Computing, Networking, and Informatics (ICACNI 2016), In Springer Series on Artificial intelligence and computing, NIT, Rourkela, India.
24. Mohanjeet kaur, Mamta Juneja, (22<sup>nd</sup>-24<sup>th</sup> July, 2016), "Comparative analysis of image steganography methods", International conference on computing paradigms (ICCP 2016), Don Bosco College, Guezou Nagar, Yelagiri Hills, India.
25. Nirmala Pun and Mamta Juneja (5<sup>th</sup>- 6<sup>th</sup> March, 2015), "Survey of hybrid PVD and LSB Steganographic approaches", International Conference on Innovative Strategies in Renewable Energies and its Applications (ISREA 2015), Sona College of Technology, Chennai, India.
26. Deepali, Mamta Juneja (5<sup>th</sup>- 6<sup>th</sup> March, 2015), "An Information Hiding Technique using Fuzzy Intuitionistic", International Conference on Innovative Strategies in Renewable Energies and its Applications (ISREA 2015), Sona College of Technology, Chennai, India.
27. Niharika Thakur and Mamta Juneja (5<sup>th</sup>- 6<sup>th</sup> March, 2015), "Review on segmentation techniques of optic disc and optic cup for glaucoma detection", International Conference on Innovative Strategies in Renewable Energies and its Applications (ISREA 2015).

28. Navjot, Mamta Juneja, (9-10 August, 2014), "A Hybrid approach for Iris Recognition in Unconstrained environment", International conference on computational Vision and Robotics (ICCV-2014), Bhubaneswar, Odisha.
29. Mamta Juneja, (18-20 February, 2010), "Role of Medical Informatics for better health care", ICEI2K10, Continental Group of Institutes.
30. Mamta Juneja, (2008)," Steganography: The art and science of hiding information" International Conference on research in management and Technology, GJIMT, Mohali.
31. Mamta Juneja, (6-9 March,2009) "Quality analysis of agricultural products using Hough transform in RGB vector space" at IACC-09, Thapar University, Patiala Sponsored by IEEE Delhi section and IEEE Computer Society Delhi Section.
32. Mamta Juneja, (2009), "Data Encryption Standard Algorithm implementation for cryptography", (ICSCI-2009) Hyderabad.

### ANNEXURE III: OUTREACH ACTIVITIES

#### EVENT COORDINATOR : Medical Devices and Restorative Technologies(MDaRT), Design Innovation Centre(DIC), UIET, PANJAB UNIVERSITY, CHANDIGARH and Coordinated following events: 55

1. Revolutionizing Prosthetics with Machine Learning and Deep Learning (January 25 to February 1, 2024):Hands-on training sessions at DIC Lab (MDaRT), Block 3, UIET, Panjab University, were conducted. The focus is on deploying machine learning and deep learning algorithms for real-time classification of signals from EMG sensors and EEG caps, revolutionizing the field of prosthetics
2. Muscle to Mind Mastery: EMG and EEG Signals Acquisition Training (Jan 15-19, 2023):This training session, held at DIC, UIET, Panjab University, focused on acquiring expertise in EMG signals from arm muscles and EEG signals from the brain.Participants not only gained mastery in signal acquisition but also contributed to the development of a fully functional 3D printed arm, showcasing the integration of muscle and mind aspects.
3. Organized Session on OCTOBER 8, 2023, "Opportunities for App Development" by Dr. Sunil K Chaddha at DIC Panjab University, Senior Advisor, Hinduja Group, India.
4. Organized Session on "Opportunities for Entrepreneurship" on August 19, 2023 by Raj Narula, Investor, Entrepreneur, Mentor - Business Development & Partnerships at Quantropi Inc.
5. Induction Program for First Year on August 18, 2023, Law Auditorium, Panjab University
6. Organized Session with Mr. Varinder Sharma, Director MSME-DI, Ludhiana at DST-TEC on July 21, 2023
7. Organised Session on "Entrepreneurship" on July 14, 2023 with Kamal Mahajan(Owner, AMP-Design Solutions Inc, CEO-GEO Calibration Inc. New York) with DIC and TBIU (Technology Business Incubator at UIET), Panjab University, Chandigarh.
8. Training Coordinator, National Level Training on Digital Technologies/3D Printing (July 10, 2023, to August 4, 2023):A comprehensive hands-on training program was conducted for Prosthetics and Orthotics (P&O) Officers, focusing on digital technologies and 3D printing.Held at the Design Innovation Centre, Panjab University, Chandigarh, the workshop aimed to equip professionals with advanced skills in utilizing digital tools for prosthetic advancements.

9. Four weeks Summer Internship Training programme from 5/6/2023 to 7/7/2023 at DIC, UIET, PU, ChD.(Second, third and fourth year: enrolled: 361, qualified: 242)
10. Four Weeks Summer Internship Training programme from 19/6/2023 to 7/7/2023 at DIC, UIET, PU, ChD. (first year: enrolled 38, qualified:15)
11. Participated in exhibition of MoE/AICTE pavilion, National Technology Week **from 11<sup>th</sup> May-14<sup>th</sup> May at the Pragati maidan, New Delhi**
12. Participated in **“Opportunities for MSMEs in Defence Manufacturing Ecosystem in North India”**, 25 April 2023, CII NR Headquarters, Chandigarh
13. Participated in All India DIC MEET 5-6th February, 2023
14. Participated in MACHAUTO EXPO,“SANKALP”, 12 MARCH 2022, Ludhiana
15. Four Weeks Summer Internship Training programme from 26/7/2022 to 22/8/2022 at DIC, UIET, PU, ChD. (first year: enrolled 26, qualified:16)
16. Four weeks Summer Internship Training programme from 7/7/2022 to 8/8/2022 at DIC, UIET, PU, ChD.(Second, third and fourth year: enrolled: 433, qualified: 305)
17. 3D modeling and designing Workshop (01/04/2021-30/04/2021) (20)
18. Finite Element Analysis Workshop, (1/5/2021-31/05/2021)(20)
19. Deep learning and applications in medical imaging (12/7/2021-12/8/2021)(27)
20. Website Development 1/08/2021-31/08/2021 (20)
21. Data Analysis based Tableau Dashboard Designing (1/10/2021-31/10/2021)(20)
22. Four weeks Summer Internship Training programme from 26/7/2021 to 25/8/2021 at DIC, UIET, PU, ChD. (first year: enrolled 136, qualified:100)
23. Four weeks Summer Internship Training programme from 12/7/2021 to 9/8/2021 at DIC, UIET, PU, ChD.(Second year: enrolled: 219, qualified: 156)
24. An interactive session on Artificial Intelligence,Smart Medical Devices and Restorative Technologies, Data analysis, by DIC, UIET, Panjab University, 26/6/2021.
25. Workshop online training : Artificial Intelligence & Machine Learning, from 27/3/2021 to 31/3/2021. Live streaming [https://youtube.com/channel/UCgerublKD\\_IcTxTe65b1CWQ](https://youtube.com/channel/UCgerublKD_IcTxTe65b1CWQ)
26. Hands-on Virtual Design Workshop: Getting Started with Embedded Systems, from 24/3/2021 to 26/3/2021. Live streaming at [https://youtube.com/channel/UCgerublKD\\_IcTxTe65b1CWQ](https://youtube.com/channel/UCgerublKD_IcTxTe65b1CWQ)
27. Online Training Workshop : Handheld 3D Scanner for Medical & Engineering Applications from 15/3/2021 to 16/3/2021.
28. Online Training Workshop on “ Best Practices for Post Processing Polyjet Parts by ALTEM on 12/3/2021.
29. DIC TOYCATHON 2021 from 3/2/2021 to 5/2/2021
30. Online Training Workshop on Signal Denoising held on 8/12/2020
31. Online Training Workshop on Application of VR in Medical Devices held on 6/12/2020
32. Online Training Workshop on Introduction to Arduino using Proteus software held on 27/11/2020
33. Online Training Workshop on PCB designing held on 24/11/2020
34. Online Training Workshop on IoMT (Internet of Medical things) held on 21/11/2020
35. Online Training Workshop on Basic 3D Designing held on 20/11/2020
36. Google's firebase summit YouTube event held from 27/10/2020-28/10/2020
37. Online Training Workshop on Python and Machine Learning held on 16/10/2020
38. Online Training Workshop on Data preprocessing using MATLAB held on 12/20/2020
39. Online Training Workshop on Introduction to Bionic Prosthetic Arm held on 9/10/2020.

40. Coordinator, Four to Six weeks Summer Internship training program from 1/6/2020-10/7/2020 and Six months Industrial Training Program (1/1/2020-30/6/2020) for the students at DIC, UIET, Panjab University, Chandigarh.
41. DIC MEET 2019 from 25/11/2019-26/11/2019 at IIT Delhi, India.
42. HACKATHON 2019 from 2/11/19-3/11/19 sponsored by DIC
43. Coordinator, Six weeks training under student exchange programme of GCET, Jammu sponsored by TEQIP III from 4/7/2019 to 15/8/2019 at DIC, UIET, Panjab University, Chandigarh.
44. Faculty Mentor Four weeks training under student exchange programme of GCET, Jammu sponsored by TEQIP III from 11/7/2019 to 10/8/2019 at UIET, PANJAB UNIVERSITY, CHANDIGARH
45. Coordinator, Four to Six weeks Summer Internship Training Program from (1/6/2019-15/7/2019) and Six months Industrial Training Program (1/1/2019-29/6/2019) for students at DIC, UIET, Panjab University, Chandigarh.
46. "StartUp and Incubation WORKSHOP" from 8/7/2019-12/7/2019 at DIC, UIET, PU, CHD in collaboration with GCET, JAMMU
47. PU TECHNOLOGY DAY 3/6/2019 sponsored by DIC
48. All India DIC Meet 2019 from 11/4/2019- 12/4/2019 at DIC SPA, New Delhi.
49. 3D modelling and printing technologies for medical device applications and restorative solutions on 15/1/2019 at UIET, Panjab University, Chandigarh, India.
50. 4th MDIC Cluster meet-up organized by CSIR- IMTECH on 10/2/2018 at CSIR-IMTECH, Chandigarh, India.
51. Coordinator, Four to Six weeks Summer Internship Training Program from (1/6/2018-14/7/2018) and Six months Industrial Training Program (1/1/2018- 30/6/2018) for the students at DIC, UIET, Panjab University, Chandigarh.
52. Institute industry interaction with the French partners of Tynor on 12/10/2017 at UIET, Panjab University, Chandigarh, India.
53. Workshop on "3D Modeling and Printing" sponsored by DIC from 21/9/2017-23/9/2017 at UIET, Panjab University, Chandigarh.
54. 3D Modeling workshop to present the list of projects under the sub theme "Medical Devices and Restorative Technologies from 26/9/2017-28/9/2017 at UIET, Panjab University, Chandigarh.
55. DIC Workshop from 21/11/2015-22/11/2015 at UIET, Panjab University, Chandigarh.

## **INTERNATIONAL CONFERENCES ORGANISED: 09**

1. CHASCON 2023, 12th-14th October, 2023) at Panjab University, Chandigarh.
2. International Conference on Aspects of Materials Science and Engineering. (ICAMSE 2021) March 4-5, 2022.
3. International Conference on Aspects of Materials Science and Engineering. (ICAMSE 2021) March 5-6, 2021.
4. International Conference on Aspects of Materials Science and Engineering. (ICAMSE 2020) May 29-30, 2020.
5. 12th Chandigarh Science Congress 2018 from 12/2/2018-14/2/2018 at Panjab University, Chandigarh.

6. 11th Chandigarh Science Congress 2017 from 09/03/2017- 11/03/2017 at Panjab University, Chandigarh.
7. 10th Chandigarh Science Congress 2016 from 29/02/2016-02/03/2016 at Panjab University, Chandigarh.
8. 9th Chandigarh Science Congress 2015 from 25/02/2015 - 27/02/2015 at Panjab University, Chandigarh.
9. 2014 Recent Advances in Engineering and Computational Sciences (RAECS 2014) from 06/03/2014- 08/03/2014 at University Institute of Engineering and Technology, Panjab University.
10. The International Conference on Biomedical Engineering and Assistive Technologies (BEATS) 2014 , from 14/02/2014 - 15/02/2014 at the Panjab University in Chandigarh, India.

## **WEBINARS ORGANISED: 02**

1. Webinar on “Need of Research and Innovation to make a self reliant India” NEP 2020 on 28/10/2020 by Prof. T G Sitharam, Director IIT Guwahati at UIET, Panjab University, Chandigarh, India.
2. Webinar on “National Education Policy, 2020 - A Road Map for its Implementation” on 10/11/2020 by Dr. Bhushan Patwardhan, Vice-Chairman, UGC, New Delhi at Department of History and UIET, Panjab University, Chandigarh, India.

## **WORKSHOPS ORGANISED:12**

1. Workshop on Cognitive Skills, Design and Critical Thinking Organised by IIC and PU, sponsored by DIC on 20/11/2018 at Physics auditorium, Panjab University, Chandigarh.
2. Workshop on Trends of AI and its Application in Industry- Academia Ecosystem sponsored by TEQIP III and CRIKC on 20/10/2018 at UIET, Panjab University, Chandigarh.
3. GIAN International workshop on Genome informatics sponsored by DST from 3/10/18-8/10/18 at UIET, PU, CHD
4. Workshop on IoT/M2M Standards in Smart City Applications’ sponsored by TEQIP III on 10/9/2018 at UIET, Panjab University, Chandigarh.
5. Workshop on 3D Modeling and Printing sponsored by TEQIP III under a twinning arrangement with UIET, PU from 16/8/2018 to 19/8/2018 at GCET, Jammu, India.
6. Workshop on” Curriculum revision” sponsored by TEQIP III on 25/5/2018 at UIET, Panjab University, Chandigarh.
7. Workshop on “ How do machines learn” under TEQIP III 20/3/2018
8. Workshop on “Web Technologies” sponsored by Utechnos from 17/3/2018- 18/3/2018 at UIET, Panjab University, Chandigarh.
9. Workshop on “Startup and Entrepreneurship” under TEQIP III 13/3/2018
10. Workshop on Swayam and Swayam Prabha under TEQIP III 20/1/2018
11. One day International Workshop on “Innovation and Entrepreneurship” in collaboration with Nottingham University sponsored by TEQIP III ON 5/12/2017
12. Workshop on “Startup and Innovation Program” sponsored by TEQIP III from 26/10/2017 to 28/10/2017 at UIET, Panjab University, Chandigarh

## **WORKSHOPS ATTENDED:11**

1. Fourth DST-PGIMER workshop on innovation in biomedical instruments and devices organized by PGIMER on 17/9/2017 at PGIMER, Chandigarh.
2. Workshop on Image Processing and Machine Vision for Pattern Recognition sponsored by TEQIP III from 11/7/2017- 16/7/2017 at UIET, Panjab University, Chandigarh.
3. Workshop on Moodle Software on 29/2/2016 at UIET, Panjab University, Chandigarh.
4. Workshop on Pedagogy for Effective use of ICT in engineering education sponsored by ISTE from 12/6/2014-2/8/2014 at IIT, Bombay.
5. Workshop on Quality Initiatives in Technical and Higher Educational Institutions in compliance with NBA Accreditation from 21/3/2014-23/3/2014 at Engineering Staff college.
6. Workshop on Business Intelligence and Cloud computing on 9/1/2013 by Tata Consultancy Services.
7. Workshop on Mat lab on 18/7/2012 by Math works.
8. Workshop on Advanced developer technologies on 11/4/2009 by Microsoft.
9. Workshop on Advances in optical fiber and wireless communication from 5/12/2008-6/12/2008 at NIT Hamirpur.
10. Workshop on Emerging trends in wireless communication on 22/9/2007 at IET Bhaddal.
11. Industry institute interaction on Emerging technologies from 6/1/2003-10/1/2003 at Wayne State University and IET Bhaddal.

## **FACULTY DEVELOPMENT PROGRAMS(FDP): 15**

1. Five day online value-added and soft skills course on 'Gender Sensitive Training Skills: Fading Boundaries' from August 5-10, 2022, organized by Panjab University, Chandigarh.
2. Short term course on Research Methodology from 11/10/2019-17/10/2019 at Academic Staff college, Panjab University, Chandigarh.
3. Short Term Course on Environmental Awareness from 18/01/2019 to 24/01/2019 at Academic Staff college, Panjab University, Chandigarh.
4. Campus Connect FEP on "Cloud Computing" by Infosys from 4/12/2017-8/12/2017 at UIET, Panjab University, Chandigarh, India.
5. FDP on Leadership Excellence from 20/3/2017-22/3/2017 at IIM, Kolkata.
6. Refresher course Basic on Applied science from 26/5/2016-15/6/2016 at Panjab University, Chandigarh, India.
7. Reverse Multiple-Choice Method "A Novel Tool for Teaching, Assessment and Training" to be delivered by Dr. Indu Anand from USA on 7/4/2016 at UIET, Panjab University, Chandigarh, India
8. Faculty Development Program on Achieving excellence in technical education from 16/7/2013-19/7/2013 at UIET, Panjab University, Chandigarh, India.
9. Refresher Course in Research Methodology from 25/5/2013- 14/6/2013 at Academic Staff college, Panjab University, Chandigarh, India.
10. Orientation Course from 22/11/2012-19/12/2012 at Academic Staff college, Panjab University, Chandigarh, India.
11. Faculty Development Program on Natural Language Processing from 1/8/2011-6/8/2011 at RBIEBT, Saharan.
12. Faculty Enablement Program from 19/7/2010-23/7/2010 at Infosys, Chandigarh, India.

13. Faculty Development Program on C# Programming from 11/1/2010-20/1/2010 at Microsoft Global Technical support Centre, Bangalore, India.
14. AICTE sponsored winter school on Advance image processing from 12/1/2009- 23/1/2009 by NITTTR and IET Bhaddal, India.
15. Short term course on Applications of MATLAB in engineering from 27/7/2007-28/7/2007 at IET Bhaddal.
16. IBM power academy program: AIX System administration from 18/12/2006-21/12/2006 at IBM Bangalore.

## **INSTITUTE INNOVATION COUNCIL(IIC), PU Events (Organised):**

### **5**

1. Convenor, Leadership Talk series: Art of Decision Making by Shri Ajit Doval, National Security Advisor, Govt. of India on 19/3/2019 at UIET, Panjab University, Chandigarh, India.
2. Convenor, Leadership Talk series: Planning for Career by Dr. Anand Deshpande, Founder, Chairman and Managing Director, Persistent Systems Ltd. on 24/1/2019 at UIET, Panjab University, Chandigarh, India.
3. Convenor, Startup talk: Show your startup idea in the daylight on 21/1/2019 at UIET, Panjab University, Chandigarh, India.
4. Convenor, IPR for students and Faculty by Mr. Harminder, Punjab State Council and Ms. Shwetasree Maujumder, Principal, Fidus Law Chamber on 10/1/2019 at UIET, Panjab University, Chandigarh, India.
5. Convenor, Leadership Talk Series by Shri Anand Mahindra, Chairman Mahindra Group on 5/1/2019 at UIET, Panjab University, Chandigarh, India.

## **ANNEXURE IV: CERTIFICATIONS:15**

1. Certified Professional for effective use of ICT in engineering education sponsored by ISTE, 2014
2. Certified Professional for quality initiatives for NBA Accreditation 2014
3. Certified Professional for Achieving Excellence in Technical Education 2013
4. Certified Professional for Business Intelligence and Cloud computing by TCS, 2013
5. Certified Professional for Mat lab Programming by MathWorks, 2011.
6. Certified Professional for conducting Campus Connect Foundation Program by Infosys, 2008 and 2010
7. Prometric Certified as IIM Test Center Administrator.2009 and 2010
8. Certified Professional for .NET Technologies by Microsoft, 2010
9. Certified Professional for advanced developer technologies by Microsoft, 2009
10. Certified Professional for Advanced Image Processing by NITTTR , (AICTE Sponsored), 2009
11. Campus Connect Certification by Infosys, Chandigarh (2008)
12. Certified Professional for exploring application of MATLAB in engineering,2007
13. Certified AIX system administrator under Power Academy Program, IBM, 2006
14. Internet Programming Certification by ATEC Software Solutions (2000).
15. Development of SCL'S Intranet from 4/1/2000-3/7/2000 by Semiconductors Limited.

## ANNEXURE V: EXPERT LECTURES/INVITED SESSIONS:33

1. Expert Lecture on *Data Applications in Projects/Cases* on October 7, 2023, from 11:00 am -1:00 pm in a skill enhancement course on '*Data Science and Artificial Intelligence Bootcamp using Python*'.
2. Talk in Induction Program for First Year on 18/8/2023, Law Auditorium, Panjab University
3. Expert session on **Experiential session on *Data Science Applications in Projects*** on August 24, 2023, from 2:00-3:30 pm in the CSDE Skill Enhancement Course on *Data Science and Artificial Intelligence Bootcamp using Python* held under the aegis of the Centre for Skill Development & Entrepreneurship, Panjab University, Chandigarh.
4. Keynote Speaker on "Smart Medical Devices and Diagnostic Solutions using Artificial Intelligence on July 11, 2023 from 2 to 4 pm at SVIET, Banur, Punjab.
5. Master Trainer, National Level Hands-on Training of P&O Officers on Digital Technologies/ 3D Printing from July 10, 2023 to August 4, 2023 at Design Innovation Centre, Panjab University, Chandigarh.
6. Expert Session on *Data Applications in Projects/Cases* on July 8, 2023, in the CSDE Skill Enhancement Summer Course on 'Data Analysis and Visualisation Using Python', held under the aegis of the Centre for Skill Development & Entrepreneurship, Panjab University, Chandigarh.
7. Expert Talk, " Artificial Intelligence in Smart Healthcare Applications", CEC, Landran, 22/2/2023
8. Expert Talk, Mach Auto Expo 2022 , Ludhiana, 12/3/2022
9. Judge, National Science Day, CGC, Landran, 28/2/2022
10. Invited Talk on "Smart Medical Devices and Diagnostic Solutions using Artificial Intelligence" on 29/1/2022 at Central University of Haryana.
11. Invited Talk on "Smart Healthcare " on 10/12/2021 at SVIET, Banur.
12. Speaker, An interactive session by Design Innovation Center of UIET, Panjab University for the students of UIET, 26/6/2021.
13. Expert Lecture in Workshop online training : Artificial Intelligence & Machine Learning, from 27/3/2021 to 31/3/2021. Live streaming [https://youtube.com/channel/UCgerubIKD\\_IcTxTe65b1CWQ](https://youtube.com/channel/UCgerubIKD_IcTxTe65b1CWQ)
14. Expert Lecture in Hands-on Virtual Design Workshop: Getting Started with Embedded Systems, from 24/3/2021 to 26/3/2021. Live streaming at [https://youtube.com/channel/UCgerubIKD\\_IcTxTe65b1CWQ](https://youtube.com/channel/UCgerubIKD_IcTxTe65b1CWQ)
15. Expert Session, Online Training Workshop : Handheld 3D Scanner for Medical & Engineering Applications from 15/3/2021 to 16/3/2021.
16. Invited Session, DIC TOYCATHON 2021 from 3/2/2021 to 5/2/2021
17. Invited Session, Application of VR in Medical Devices held on 6/12/2020
18. Invited Session, IoMT (Internet of Medical things) held on 21/11/2020
19. invited Session,Basic 3D Designing held on 20/11/2020
20. Invited Session,Python and Machine Learning held on 16/10/2020
21. Invited Session>Data preprocessing using MATLAB held on 12/20/2020
22. Invited Session,Introduction to Bionic Prosthetic Arm held on 9/10/2020
23. Invited lectures on "3D Modelling and printing technologies for medical device applications and restorative solutions" at IIT Ropar, 15/1/2019
24. Expert lectures on "Machine Learning approaches" in International workshop on genome informatics sponsored by GIAN, DST, UIET, Panjab University. (3/10/2018-8/10/2018).
25. Invited Lecture on "A comparative analysis of different materials and rapid prototyping techniques for 3D printing of surgical guides" at 26th Annual International Conference on Composites or Nano Engineering, Paris, France. (15/7/2018-21/7/2018)July,



26. Expert Lectures in Workshop on 3D Modeling and Printing sponsored by TEQIP III under twinning arrangement with UIET, PU at GCET, Jammu.(16/8/2018 to 19/8/2018)
27. Expert lecture on "Implementation of Linked List using C++ " in FDP on Programming Languages on 10/7/2015,RBIEBT,Sahuran.
28. Expert lecture on "Implementation of Stacks and Queues using C++ " in FDP on Programming Languages on 10/7/2015,RBIEBT,Sahuran
29. Expert lecture on "Implementation of Graph and Trees using C++ " in FDP on Programming Languages on 10/7/2015,RBIEBT,Sahuran
30. Expert lecture on "Implementation of advanced application using C++ " in FDP on Programming Languages on 10/7/2015,RBIEBT,Sahuran
31. Expert lecture on "Problem solving and Tutorials on Normalization" in FDP on RDBMS on 22/7/2014,RBIEBT,Sahuran
32. Expert lecture on "Problem solving and Tutorials on OLAP and OLTP" in FDP on RDBMS on 22/7/2014,RBIEBT,Sahuran
33. Expert Lecture in SDP on "DSP in Image processing using MATLAB tools" scheduled 24/5/2012 from 10:00 AM to 11:30 AM at Chandigarh University, Gharuan.

## ANNEXURE VI: ACADEMIC AND ADMINISTRATIVE CONTRIBUTIONS:

### **SUBJECTS TAUGHT:**

**BE:** Database Management System, Advanced Database Systems, Operating system, Object Oriented Programming, Data Structure, Programming Fundamentals

**ME and PhD:** Advanced Database Systems, Database Technologies

**COURSES REVISED:** Database Management System, Advanced Database Systems, Operating system, Object Oriented Programming

**LABORATORIES SETUP:** DBMS, Operating System , DIC-MDaRT-LAB

**University Question Paper Setter:**

**BE Examinations:** Data Structure, Operating System, Database Management System, Object Oriented Programming, Digital Image processing, Advance Databases

**ME Examination:** Database Technologies, Advanced Database systems

**Member, NEP Committee PU 2023**

**Superintendent, Examinations, May 2023, UIET, PU**

**NBA Presentation Incharge BE and ME, UIET 2021-23**

**Member, Board of Studies, CSE 2023-25**

**Convenor, Research Monitoring Committee(RMC), CSE, UIET 2021-24**

**Convenor Joint Academic and Administrative Committee(JAAC), UIET, 2024-25**

**Member, JAAC, UIET, 2022-23, 23-24**

**Member, Academic Committee, CSE, UIET, 2021-23**

**Member, Administrative Committee, CSE, UIET (1/3/2020-28/2/2021)**

**ME Teacher Incharge 2020 onwards**

**NBA Criteria In-Charge, Continuous Improvements, Criteria 6 for NBA, BE CSE (2020 Onwards)**

**NBA Criteria In-Charge, Continuous Improvements, Criteria 7 for NBA, ME CSE (2019 onwards)**

**Faculty representative from CSE department in committee for Industry Institute Interaction**

**PU Student Elections-Counting Committee 2022**

**Section Chair, Chascon 2022-Engineering Section, September 15-17, 2022**

**Member, Library Committee UIET 2021-23**

**Deputy Superintendent, Examinations, December 2019, UIET, PU**

**Convenor, Academic Committee, CSE, UIET (1/3/2019-28/2/2020)**

**Member, Research Monitoring Committee (1/3/2019-28/2/2020)**

**Coordinator, Workshop on Curriculum revision sponsored by TEQIP III , 25/5/2018**

**Convenor, Administrative Committee, CSE, UIET (1/3/2018-28/2/2019)**

**NBA Criteria In-Charge, Faculty Contributions, NBA, BE CSE (2018 onwards)**

**CONVENOR: CSE BOARD OF STUDIES 2017-2019**

**Special Invitee: Academic Committee, UIET, 2017-2018**

**COORDINATOR : Four to Six weeks Summer Internship Training Program and Six months Industrial Training Program for the students at DIC, UIET, Panjab University, Chandigarh.( 2016-2021)**

**Member Technical Committee UIET 2016-17**

**Member-Research Monitoring Cell, CSE 2016-17**

**Member-Academic Committee -CSE 2016-17**

**Teacher In charge- Announce committee JAC 2016-18**

**Teacher In charge -Category One Girl Child OGC Online admissions Panjab University. 2016-18**

**Teacher In charge -ME admissions UIET- Document verification committee 2016-17**

**Teacher In charge of the NBA: 2012-2017**

**Teacher In charge- Staze Management Degree Award Ceremony 2012-2020**

**Teacher In-charge, ME Synopsis and Pre Thesis presentation 2011-204**

**BE Project Supervisor 2011-2024,**

**BE Industrial Training Supervisor 2011-2024,**

**Member, BE Project Evaluation Panel 2011-2024,**

**Member, BE Training Evaluation Panel 2011-2024**

**Teacher In charge- Time table BE, ME, PhD 2011-2017**

**Teacher In charge-Faculty Publications compilation (maintaining information regarding publications, conferences, workshops of faculty members, record keeping and report generation etc.). 2011-2017**

Teacher In charge-Students attendance compilation (: Compilation of Leaves medical, duty etc.).  
2011-2017

Departmental Teacher In charge of Scrutiny work of Examinations of UIET.2011-2017

Departmental In charge for Curriculum revision for BE, BE MBA and ME. 2011-17

## ANNEXURE VII: INNOVATION IN TEACHING PRACTICES:

- Platforms Explored: ZOOM, WEBEX, GOOGLE MEET, GCR, VIRTUAL LABS,MICROSOFT TEAMS
- ONLINE COURSE MATERIAL AND EVALUATION: ASSIGNMENTS, PRESENTATIONS, QUIZZES
- CERTIFIED:Pedagogy for Effective use of ICT in engineering education, Swayam and Swayam Prabha

## ANNEXURE VIII: STUDENT MENTORING ACTIVITIES:

1. EVALUATOR/MENTOR: NATIONAL TOYCATHON 2021
2. **One team** amongst winners **National Innovation contest** by Ministry of Education's Innovation Cell ( NIC MIC 2021)
3. **Three teams** selected for the **First Round, National Innovation contest** by Ministry of Education's Innovation Cell ( NIC MIC 2021)
4. **Three teams** shortlisted at the **National Toycathon- 2021** conducted by by Innovation Cell, Ministry of Education in March, 2021
5. **Five ideas (POCs)** selected at PU IIC level for **Regional competition** leading to short listing for SIH 2020.
6. **Eight PROJECTS** SELECTED IN FINAL ROUND **NATIONAL INNOVATION CONTEST 2020**, MHRD,
7. **IIC 2019, MHRD: Won 3RD PRIZE**
8. TEACHER INCHARGE: ACM ICPC 2014-2020
9. Teacher in charge, Snackdown 2017(20/5/2017)
10. Teacher In charge QUIZ CHASCON 2017
11. Teacher in charge HACKATHON 2017
12. Teacher in charge ACM ICPC (Asian and World level programming contest-Preliminary-8/10/2016, Final: December 26-27, 2016)
13. Teacher in charge ACM ICPC (Asian and World level programming contest-October 30,2015)
14. Teacher In-charge Java Classes (April 1, 2015 to April 15, 2015).
15. Organizer Technical Quiz CHASCON 2015(February 26, 2015).
16. Teacher In-charge -Basic Linux Classes (February 9, 2015 to - February 20, 2015).
17. Teacher in charge ACM ICPC (Asian and World level programming contest 23-24/11/2014).
18. Teacher in charge ASPIRATIONS 2020(Infosys National Programming contest-17-18/9/2014).
19. Teacher In-charge Java Classes (April 1, 2014 to April 15, 2014).
20. Organizer Technical Quiz CHASCON 2014(February 27, 2014).
21. Teacher In-charge -Android Workshop (February 11, 2014).
22. Teacher In-charge -Basic Linux Classes (February 10, 2014 to - February 19, 2014)

