

## Personal Information

Name **Satish Kumar Singh**  
Date of Birth Feb 13, 1980  
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Indian Institute of Information Technology Allahabad  
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## Areas of Interest

July 2005– Present Machine and Deep Learning based Applications, Data Compression, Image Processing, Histopathology Image Analysis, Biometrics, Watermarking, Retrieval, Thermal Imaging, and Thermal Object Detection and Recognition

## Work Experience

Dec 2017 – Present **Associate Professor**  
Indian Institute of Information Technology Allahabad, UP, India  
- Teaching, and Supervising Engineering UG, PG, & Ph.D. Students  
- Writing & Publishing Research Articles  
- Managing Funded Research Project and Consultancy  
- Organizing Workshops/Seminars/Short Term Courses/Conferences

Oct 2022 – Present **Registrar(Actg)**  
Indian Institute of Information Technology Allahabad, UP, India  
- Administration, Finances, Estate, Health Center, and Transport  
- Other Responsibilities as per the IIIT Act 2014 and Statutes by Government of India

May 2022 – May 2022 **Visiting Professor**  
Department of Mathematics & Computer Science, University of Munster, Germany  
- Writing & Publishing Research Articles  
- Managing Funded Research Project

Jan 2013 – Dec 2017 **Assistant Professor**  
Indian Institute of Information Technology Allahabad, UP, India

June 2010 – Dec 2012 **Assistant Professor**  
Jaypee University of Engineering and Technology Guna, MP, India

Oct 2007 – June 2010 **Senior Lecturer**  
Jaypee University of Engineering and Technology Guna, MP, India

Jul 2005 – Sep 2007 **Lecturer**  
Jaypee University of Engineering and Technology Guna, MP, India

Jul 2004 – June 2005 **Trainee/Masters Thesis**  
Raja Ramanna Center for Advanced Technology Indore, MP, India

June 2002 – June 2002 **Summer Intern**  
Indian Telephone Industries, Raebareli, UP, India

June 2001 – June 2001 **Summer Intern**

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## Educational Qualification

- 2006 – 2010 **Jaypee University of Information Technology Wanknaghat, HP, India**  
Doctor of Philosophy in Computer Science and Engineering: **Image Processing**  
Class/Percentage: **First-Class**
- 2003 – 2005 **Devi Ahilya University, MP, India**  
Master of Technology: **Laser Sc and Applications**  
Class/Percentage: **First-Class/ 77**
- 1999 – 2003 **Dr. R M L Avadh University Faizabad, UP, India**  
Bachelor of Technology: **Electronics Engineering**  
Class/Percentage: **First-Class/ 75**
- 1994 – 1996 **GIC Raebareli, UP-Board, UP, India**  
Intermediate: **PCM**  
Class/Percentage: **First-Class/ 74**
- 1992 – 1994 **GIC Raebareli, UP-Board, UP, India**  
High School: **Science**  
Class/Percentage: **First-Class/ 74**

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## Professional Qualification

- March 2002 **Graduate Aptitude Test for Engineers**, Ministry of Human Resource Development, Government of India with 92.6 Percentile in Electronics and Communication Engineering

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## Editorial Services

- 2020– Present **Associate-Editor**, International Journal of Pattern Recognition and Artificial Intelligence (WS-IJPRAI)
- 2016– Present **Associate-Editor**, Journal of Pattern Recognition Research (JPRR)
- 2020– 2022 **Guest-Editor**, Neural Computing and Applications in Computer Vision and Image Processing (Springer-NCAA)
- 2020– 2022 **Guest-Editor**, Springer Nature Computer Science SI on Recent Trends in Computer Vision (Springer-NCS)
- 2020– 2022 **Guest-Editor**, Springer Nature Computer Science SI on Progress in Image Processing (Springer-NCS)
- 2020– 2022 **Associate-Editor**, IET Image Processing (IET-IPR)

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## Professional Society Affiliations

- 2020– Present **Fellow - Institute of Engineers, India (F1265425)**
- 2006– Present **Fellow - Institution of Electronics and Telecom. Engineers, India (F188607)**
- 2009– Present **Sr Member - Institute of Electrical and Electronics Engineers, USA (SM90940168)**
- 2010– Present **Sr Member - Int. Asso. of Computer Science and Info. Tech., USA (SM88338811)**
- 2020– Present **Member - Int. Asso. of Pattern Recognition (M242)**
- 2010– Present **Member - International Association of Engineers, UK (M64758)**

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## Thesis and Project Supervision

- July 2005– Present **Doctor of Philosophy**: Supervised: **10**; Ongoing: **07**  
**Mater of Technology**: Supervised: **46**; Ongoing: **04**  
**Bachelor of Technology**: Supervised: **152**; Ongoing: **00**

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## Consultancy Projects

- 2022 – 2022 **Title:** Research Consultant and Collaborator  
**Company/Agency:** Eventila Technologies Pvt Ltd (Spyne.AI) Gurgaon, India  
**Status:** Completed  
**Scheme:** Consultancy under Industry-Academia Interaction
- 2021 – 2024 **Title:** Biometric Research and Development Consultant  
**Company/Agency:** SecureMantra Technologies (P) Ltd, India  
**Status:** Ongoing  
**Scheme:** Consultancy under Industry-Academia Interaction
- 2021 – 2025 **Title:** Augmented Vision For Defense Applications  
**Company/Agency:** Defense Research and Development Organization, India  
**Status:** Ongoing  
**Scheme:** PhD for WP under Industry-Academia Interaction

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## Funded Research/Development Projects and Grants

- 2024 – 2026 **Title:** AI System Design and Development to Tackle the Foot and Mouth Disease in Cattle from Rural Areas  
**Funding Agency:** Higher Education Funding Agency (HEFA)  
**Amount:** Rs. 1,00,00,000/- Only.  
**Status:** Under Review
- 2024 – 2026 **Title:** Modern AI-Based Computer Assisted Criminal Investigation using Sketch- to-Face Synthesis based Facial Recognition  
**Funding Agency:** IDAPT-HUB Foundations IIT( BHU) Varanasi, India  
**Amount:** Rs. 19,94,344/- Only.  
**Status:** Under Review
- 2023 – 2025 **Title:** Development of Deep Learning based CCTV Footage Super-resolution for Human Subject Recognition for Defence Applications  
**Funding Agency:** IDAPT-HUB Foundations IIT( BHU) Varanasi, India  
**Amount:** Approx Rs. 10,45,000/- Only.  
**Status:** Ongoing
- 2022 – 2024 **Title:** Thermo-Visible Deep Multimodal Ocular Biometric Recognition and Facial Thermal Profiling in COVID-19 Reality  
**Funding Agency:** Department of Science and Technology (DST), India-Slovenia, International Bilateral Co-operation Division India  
**Amount:** Approx Rs. 27,00,480/- Only (Both Side).  
**Status:** Ongoing
- 2021 – 2023 **Title:** Design of Efficient Descriptors for Biomedical Image Retrieval in Computer Assisted Diagnosis  
**Funding Agency:** Department of Science and Technology (DST), India and Deutscher Akademischer Austauschdienst (DAAD), Germany  
**Amount:** Approx Rs. 21,64,000/- Only (Both Side).  
**Status:** Ongoing
- 2023-2023 **Event:** Summer School on Computational Advances in Deep Learning and Applications (CADLA-2023), Indian Institute of Information Technology Allahabad-211015, India  
**Funding Agency:** IEEE Computational Intelligence Society, USA  
**Amount:** Approx Rs. 5,33,000/- Only (Eq \$6500).  
**Status:** Completed
- 2019 – 2022 **Title:** A Web Browser based Intelligent Kernel Tool for Automatic Detection and Blocking of Obscene Image and Video Contents in Real Time  
**Funding Agency:** Ministry of Home Affairs, Government of India  
**Amount:** Rs. 38,30,400/- Only.  
**Status:** Completed

- 2021 **Title:** IEEE Signal Processing Society Cycle-2 School Project on Advanced Biometric Signal Processing Techniques, Indian Institute of Information Technology Allahabad, Prayagraj-211015  
**Funding Agency:** IEEE Signal Processing Society  
**Amount:** Rs. 2,16,000/- Only.  
**Status:** Completed
- 2019 – 2020 **Title:** Image Super-resolution  
**Funding Agency:** Defence Institute of Psychological Research, Defence Research and Development Organisation, Government of India.  
**Amount:** Rs. 9,22,000/- Only.  
**Status:** Completed
- 2017 – 2019 **Title:** Design and Development of Software package(s) for image illumination normalization and coloring of IR images  
**Funding Agency:** Defence Institute of Psychological Research, Defence Research and Development Organisation, Government of India.  
**Amount:** Rs. 24,52,643/- Only.  
**Status:** Completed
- 2019 **Title:** IEEE Signal Processing Society Meeting on Advances in Deep Architectures for Signal, Image & Vision Applications Grant, Indian Institute of Information Technology Allahabad, Prayagraj-211015  
**Funding Agency:** IEEE Signal Processing Society  
**Amount:** Rs. 324000/- Only.  
**Status:** Completed (L31 Report Submitted)
- 2019 **Title:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program Grant, Indian Institute of Information Technology Allahabad, Prayagraj-211015, India  
**Funding Agency:** IEEE Signal Processing Society  
**Amount:** \$1350/- Only.  
**Status:** Completed (L31 Report Submitted)
- 2017 – 2018 **Title:** Automatic Face Detection, Retrieval, and Recognition from Heterogeneous large-scale database for secure access, IIIT Allahabad  
**Funding Agency:** Ministry of Human Resource Development, Government of India.  
**Amount:** Rs. 10,00,000/- Only.  
**Status:** Completed.
- 2015 – 2018 **Title:** Global Initiative of Academic Network (GIAN)  
**Funding Agency:** Ministry of Human Resource Development, Government of India  
**Amount:** Rs. 59,84,000/- Only.  
**Status:** Completed (Report submitted)
- 2017 **Title:** NVIDIA Corporation GPU Grant for GeForce Titan-X Pascal (Under University Partnership Program to support the research)  
**Funding Agency:** NVIDIA Corporation  
**Amount:** Rs. 3,25,000/- Only.  
**Status:** Completed.
- 2016 – 2017 **Title:** 300KWp Grid-Connected Rooftop Solar PV Power Project  
**Funding Agency:** Ministry of New and Renewable Energy, Government of India  
**Amount:** Rs. 2,40,00,000/- Only.  
**Status:** Completed
- 2016 **Title:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program, Grant, Indian Institute of Information Technology Allahabad, Prayagraj-211015, India  
**Funding Agency:** IEEE Signal Processing Society  
**Amount:** \$3500/- Only.  
**Status:** Completed(L31 Report Submitted).

- 2015 **Title:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program, Grant, Indian Institute of Information Technology Allahabad, Prayagraj-211015, India  
**Funding Agency:** IEEE Signal Processing Society  
**Amount:** \$3500/- Only.  
**Status:** Completed(L31 Report Submitted).
- 2013 – 2014 **Title:** Science and Engineering Research Board – Department of Science and Technology International Travel Support(ITS) Grant for Young Scientists  
**Funding Agency:** Science and Engineering Research Board, Department of Science and Technology, Government of India  
**Amount:** Rs. 2,46,436/- Only.  
**Status:** Completed (Report Submitted)

## Invited Talks/Expert Lectures/Convener/Coordinator

- Dec 1–3, 2023 **Event:** 10th IEEE UP Conference on Electrical, Electronics and Computer Engineering (UPCON-2023) Amity University Greater Noida-201308, Uttar Pradesh, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Oct 30– Nov 3, 2023 **Event:** 6th One-Week Self Sponsored Short Term Course, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Coordinator and Main Teacher
- Sep 14–15, 2023 **Event:** International Conference on Sustainable Emerging Innovations in Engineering and Technology, ABES Engineering College, Ghaziabad-201009, Uttar Pradesh, India  
**Topic:** AI and Sustainability Issues, IEEE Conference  
**Role:** Keynote Talk
- Sep 8–9, 2023 **Event:** 3rd International Conference on Innovative Sustainable Computational Technologies, Graphic Era University, Dehradun-248002, Uttarakhand, India  
**Topic:** Sustainable AI, IEEE Conference  
**Role:** Keynote Talk
- July 17–21, 2023 **Event:** IEEE CIS Summer School, Indian Institute of Information Technology Allahabad-211015, India  
**Topic:** Computational Advances in Deep Learning and Applications (CADLA-2023)  
**Role:** Coordinator and Main Teacher
- Dec 2–4, 2022 **Event:** 9th IEEE UP Conference on Electrical, Electronics and Computer Engineering (UPCON-2022) Indian Institute of Information Technology Allahabad, Prayagraj-211015, Uttar Pradesh, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Oct-Nov, 2022 **Event:** ATAL Faculty Development Program, Indian Institute of Information Technology Allahabad, India  
**Topic:** Advances In Artificial Intelligence  
**Role:** PI/Coordinator
- Sep 17, 2022 **Event:** IEEE Seasonal School on Applications of Machine Learning in Signal, Image and Computer Vision  
**Topic:** Recent Developments in Deep Learning  
**Role:** Invited Speaker
- Aug 12–13, 2022 **Event:** Conference on Computer Vision and Machine Intelligence (CVMI-2022) Indian Institute of Information Technology Allahabad, Prayagraj-211015, Uttar Pradesh, India  
**Topic:** IEEE Conference  
**Role:** Conference Chair
- Aug 8–13, 2022 **Event:** 5th One-Week Self Sponsored Short Term Course, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Coordinator and Main Teacher

- May 5, 2022 **Event:** Guest Talk, Faculty of Mathematics and Computer Science, W. W. University of Munster, Germany  
**Topic:** Biasness and Fairness Issues Worth Considering for AI  
**Role:** Invited Speaker
- Feb 8, 2022 **Event:** Research Development Programme(RDP) on "Problem Formulations, Publications, Proposal and Thesis Writing" , AIET, Moodubidre-574225, Karnataka, India  
**Topic:** Research Publication Etiquette and Ethics  
**Role:** Invited Speaker
- Jan 18, 2022 **Event:** ATAL FDP on Machine Learning applications on Image processing, Nagarjuna College of Engineering and Technology, Bangalore-562164, Karnataka, India  
**Topic:** Deep Learning Architectures for Image Processing Applications  
**Role:** Invited Speaker
- Dec 17–18, 2021 **Event:** 3rd International Conference on Advances in Computing, Communication Control, and Networking, Galgotias College of Engineering and Technology, Greater Noida, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Dec 16, 2021 **Event:** ATAL FDP on Data Sciences and Its Applications, Central University Of Tamil Nadu, Thiruvavur-610005, Tamil Nadu, India  
**Topic:** Recurrent Neural Networks  
**Role:** Invited Speaker
- Dec 06–10 2021 **Event:** 4th One-Week Self Sponsored Short Term Course, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Coordinator and Main Teacher
- Dec 03–05, 2021 **Event:** 6th International Conference on Computer Vision and Image Processing, Indian Institute of Technology, Ropar-140001, India  
**Topic:** IAPR Conference  
**Role:** Conference Chair
- Nov 29, 2021 **Event:** ATAL FDP on Principles of AI,ML and DL, University Of Mysore, Mysuru-570005, Karnataka, India  
**Topic:** Facial Recognition under Surveillance Settings  
**Role:** Invited Speaker
- Nov 26, 2021 **Event:** 7th International Conference on Signal Processing and Communication (ICSC 2021), IIIT Noida-201309, India  
**Topic:** Deep Learning for Signal Processing Applications  
**Role:** Invited Speaker
- Nov 11–13, 2021 **Event:** 8th IEEE Conference on Electrical, Computer, and Electronics, UPCON-2021, BTKIT Dwarhat-248197, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Oct 23–28, 2021 **Event:** IEEE SPS Cycle 2 School  
**Topic:** Project on Advanced Biometric Signal Processing Techniques  
**Role:** Coordinator and Main Teacher
- Oct 21, 2021 **Event:** ATAL FDP on Artificial Intelligence in Renewable Power Generation, University of Lucknow, Lucknow-226007, Uttar Pradesh, India  
**Topic:** AI for Data Analysis  
**Role:** Invited Speaker
- Oct 4, 2021 **Event:** ATAL FDP on Fundamentals and Applications of Photonic Crystals and Metamaterials, IIIT Allahabad, Prayagraj-211015, Uttar Pradesh, India  
**Topic:** Fundamental of Deep Learning Techniques in Materials Informatics  
**Role:** Invited Speaker

- Sep 17, 2021 **Event:** ATAL FDP on IoT and Cloud based Sensors and Networks, PSIT Kanpur, Uttar Pradesh,  
**Topic:** Deep Learning: Introduction and Application in IoT and sensor Networks  
**Role:** Invited Speaker
- Sep 15, 2021 **Event:** ATAL FDP on Internet of Things with Machine Learning and Artificial Intelligence, ITS Greater Noida, Uttar Pradesh,  
**Topic:** Deep Learning: Humble Introduction and Applications  
**Role:** Invited Speaker
- Aug 20, 2021 **Event:** Workshop on Recent Trends in Biomedical Imaging and Applications, Dept. of Applied Science, IIIT Allahabad, Uttar Pradesh,  
**Topic:** Histopathological Image Analysis using Deep Learning Models  
**Role:** Invited Speaker
- July 20, 2021 **Event:** FDP on Recent Trends and Advancements in the Era of Machine Learning, Harcourt Butler Technical University Kanpur, Uttar Pradesh,  
**Topic:** Convolution Neural Network Essentials  
**Role:** Invited Speaker
- July 06, 2021 **Event:** ATAL FDP on Best Teaching-Learning and Assessment Practices in Computer Science/Information Technology based on National Education Policy (NEP), JSS Science and Technology University, Mysore, Karnataka,  
**Topic:** Best Teaching-Learning practices : Student Engagement and Attention  
**Role:** Invited Speaker
- June 23, 2021 **Event:** ATAL FDP on Artificial Intelligence in Contemporary Biomedical and Healthcare Applications: Fundamentals and Hands-on on MATLAB, Gautam Buddha University, Greater, Noida, Uttar Pradesh  
**Topic:** Deep Learning based AI in Health Care Applications  
**Role:** Invited Speaker
- June 06–11, 2021 **Event:** 2021 IEEE International Conference on Acoustics, Speech and Signal Processing ICASSP-21, Toronto, Ontario, Canada  
**Topic:** IEEE Conference  
**Role:** Session Chair
- May 4, 2021 **Event:** DST FDP on Entrepreneurship, Teerthankar Mahaveer University Moradabad  
**Topic:** Promoting Innovative Ventures: Role of Technology Business Incubator (TBI)  
**Role:** Invited Speaker
- Feb 11, 2021 **Event:** ATAL FDP on Internet of Things, I.T.S Engineering College, Greater Noida, Uttar Pradesh  
**Topic:** AI + IOT and Applications  
**Role:** Invited Speaker
- Dec 22, 2020 **Event:** AICTE QIP on Data Analytics and Its Applications in Industries, Dept. of CSE and EE, IIT(BHU) Varanasi, Uttar Pradesh  
**Topic:** Deep Learning and Applications  
**Role:** Invited Speaker
- Dec 18–19, 2020 **Event:** 2nd International Conference on Advances in Computing, Communication Control, and Networking, GU Greater Noida, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Dec 03–05, 2020 **Event:** 4th International Conference on Information and Communication Technology, IIITDM Kancheepuram Chennai-600127, India  
**Topic:** IEEE Conference  
**Role:** General Chair
- Dec 04–06, 2020 **Event:** 5th International Conference on Computer Vision and Image Processing Indian Institute of Information Technology, Allahabad-211012, India  
**Topic:** IAPR Conference  
**Role:** Conference Chair

- Dec 01–06 2020 **Event:** 3rd One-Week Self Sponsored Short Term Course, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Workshop & Summer School Coordinator
- Sep 03, 2020 **Event:** Webinar: Jointly organized by IEEE S.B & G. L. A. University Mathura, India  
**Topic:** How to Write a Research Paper: Tips and Tricks  
**Role:** Invited Speaker
- Jul 12, 2020 **Event:** Webinar: Jointly organized by IEEE S.B Jain Student Branch Nagpur & IEEE RCOEM Student Branch Nagpur, India  
**Topic:** Image Classification: A Data Driven approach  
**Role:** IEEE Virtual Speaker
- Jul 12, 2020 **Event:** Webinar: Jointly organized by IEEE S.B Jain Student Branch Nagpur & IEEE RCOEM Student Branch Nagpur, India  
**Topic:** Image Classification: A Data Driven approach  
**Role:** IEEE Virtual Speaker
- Jan 31- Feb 01, 2020 **Event:** Workshop & Internship Program on Data Analytics and Machine Learning, at Alva's Institute of Engineering & Technology, in Association with IIIT Allahabad, Mijar Campus, Moodbidri, Karnataka, India  
**Topic-1:** Image Classification: A Data Driven approach  
**Topic-2:** Pre-Deep Learning Essentials  
**Role:** Resource person
- Dec 06–08, 2019 **Event:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program, Grant Indian Institute of Information Technology, Allahabad-211012, India  
**Topic:** Distinguished Lecture by Gaurav Sharma, PhD, Fellow IEEE, IIIT Allahabad & IIIT Delhi, New Delhi  
**Role:** Coordinator
- Dec 06–08, 2019 **Event:** 3rd IEEE Conference on Information and Communication Technology, Indian Institute of Information Technology, Allahabad-211015, India  
**Topic:** IEEE Conference  
**Role:** Conference Organizing Chair
- Dec 27–28, 2019 **Event:** Two-Day Lecture Series on Good Research Practices, Indian Institute of Information Technology, Allahabad-211015, India  
**Topic:** Good Research Practices  
**Role:** Coordinator
- June 24–30 2019 **Event:** 2nd National Workshop & Summer School, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Workshop & Summer School Coordinator
- May 31-June 01 2019 **Event:** International conference on "Advances in Electronics: Electrical: Computational Intelligence", ICAEEC-2019, IIIT Allahabad  
**Topic:** International Conference  
**Role:** Session Chair(Signal & Image Processing)
- Jan 15-17, 2019 **Event:** Workshop & Internship Program on Data Analytics and Machine Learning, at Alva's Institute of Engineering & Technology, in Association with IIIT Allahabad, Mijar Campus, Moodbidri, Karnataka, India  
**Topic-1:** Biometrics: An Introduction  
**Topic-2:** Person Recognition: A Multimodal Biometric Approach  
**Topic-3:** Deep Learning Basics  
**Role:** Resource person
- Nov 02-04, 2018 **Event:** 5th IEEE Conference on Electrical, Computer and Electronics, UPCON 2018, Madan Mohan University of Technology, Gorakhpur  
**Topic:** IEEE Conference  
**Role:** PhD Symposium Chair

- Oct 26-28, 2018 **Event:** International Conference on Information and Communication Technology, IIITDM Jabalpur, Madhya Pradesh, India.  
**Topic:** Joint Conference of IIITs (ALD, GWL, JBP & KNPM)  
**Role:** Steering Committee Member, Track & Session Chair (CI & ML)
- Sep 28-29, 2018 **Event:** International Conference on Computing, Power and Communication Technologies, GUCON 2018, Galgotia University Greater Noida  
**Topic:** IEEE Conference  
**Role:** Session Chair
- July 14–28, 2018 **Event:** 1stNational Workshop & Summer School, IIIT Allahabad-211015, India  
**Topic:** Advances in Deep Architectures for Signal, Image and Vision Applications  
**Role:** Workshop & School Convener
- Dec 25, 2017- Jan 05, 2018 **Event:** Global Initiative of Academic Networks, Course, IIIT Allahabad-211015, India  
**Topic:** Graphical Model for Machine Learning  
**Role:** Course Coordinator
- Oct 29-30, 2017 **Event:** IEEE SPS & CS Short Course on Cognition and Biometrics 2017, IIIT Allahabad-211015, India  
**Topic:** Cognition and Biometrics  
**Role:** Course Coordinator
- Sep 27-29, 2017 **Event:** IEEE All India Student Young Professional and Women in Engineering Congress 2017 (AISYWC17), IIIT Allahabad-211015, India  
**Role:** Coordinator
- Nov 03-05, 2017 **Event:** International Conference on Information and Communication Technology, IIITM Gwalior-474015, Madhya Pradesh, India.  
**Topic:** Joint Conference of IIITs (ALD, GWL, JBP & KNPM)  
**Role:** Steering Committee Member, Track Chair and Session Chair (Signal and Image Processing)
- Oct 26–28, 2017 **Event:** 4th IEEE Conference on Electrical, Computer and Electronics, UPCON 2017, GLA University Mathura  
**Topic:** IEEE Conference  
**Role:** Track Chair & Session Chair(Image Processing)
- Dec 01, 2016 **Event:** Imaging Informatics Division, BII, Agency for Science, Technology and Research (A-STAR) Singapore-138 671, Singapore.  
**Topic:** Image Descriptors an Interleaved Approach  
**Role:** Speaker
- August 20-21, 2016 **Event:** IEEE SP/C Joint Chapter UP Section, Sponsored workshop on LATEX Typesetting, IIIT Allahabad-211015-India.  
**Topic:** LATEX Typesetting  
**Role:** Coordinator
- Dec 09-11, 2016 **Event:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program, Grant Indian Institute of Information Technology, Allahabad-211015,India.  
**Topic:** Distinguished Lecture by Gaurav Sharma, PhD, Fellow IEEE, Varanasi & Allahabad  
**Role:** Coordinator
- Dec 04-06, 2015 **Event:** 2rd IEEE Conference on Electrical, Computer and Electronics, UPCON 2015, Indian Institute of Information Technology, Allahabad-211015-India  
**Topic:** IEEE Conference  
**Role:** Coordinator
- Dec 05, 2015 **Event:** IEEE Signal Processing Society Distinguished Lecturer (DL) Program, Grant Indian Institute of Information Technology, Allahabad-211015, India.  
**Topic:** Distinguished Lecture by Gaurav Sharma, PhD, Fellow IEEE, Allahabad  
**Role:** Coordinator

- Dec 04-06, 2014 **Event:** IET & MHRD Sponsored workshop on Signal processing, Samrat Ashok Technological Institute, Vidisha, Madhya Pradesh-464 001-India  
**Topic:** Identity verification via Multimodal Biometrics  
**Role:** Invited Speaker
- Nov 01-02, 2014 **Event:** IEEE Students Leadership Workshop and Meeting, Indian Institute of Information Technology, Allahabad-211012-India  
**Topic:** Leadership  
**Role:** Coordinator
- June 07-13, 2014 **Event:** SERB-DST Sponsored Summer School on Robotics, Indian Institute of Information Technology, Allahabad-211012-India  
**Topic:** Robotics  
**Role:** Coordinator
- August 16-28, 2011 **Event:** AICTE Sponsored Staff Development Program on Recent Trends in Signal processing, Samrat Ashok Technological Institute, Vidisha, Madhya Pradesh-464001-India  
**Topic:** Digital Watermarking  
**Role:** Invited Speaker
- July 05-10, 2010 **Event:** JIET Sponsored Short Term Course on Digital Signal and Image Processing, Jaypee Institute of Engineering and Technology, Guna-473226-India.  
**Topic:** Digital image Processing and Security Issues  
**Role:** Coordinator

## Awards/Scholarship/Fellowship

- 2023 **Young Achievers Award**, GEC and ISTE New Delhi
- 2022 **Best Paper Award**, CVMI IAPR
- 2021 **Research Excellence Award**, Amity University, Greater Noida
- 2017 **Best Operational Excellence Award**, College of CS&IT, TMU, Moradabad
- 2017 **Best PhD Thesis Award to PhD Scholar Dr. Shiv Ram Dubey**, IEEE CICT
- 2015 **Best Paper Award**, IEEE UPCON
- 2002 **MHRD GATE Fellowship**
- 1996 **Sardar Patel Citation**
- 1994 **NCC Certificate "A"**

## Administrative Experiences

- 2022 – Present **Registrar(Actg):** Administration, Finance, Estate, Transport, Health Center, Others
- 2021 – Present **Chair:** IEEE SPS Chapter Uttar Pradesh Section, India
- 2021 – 2023 **Associate Dean:** Institute Ranking, GIAN like Courses, Library, and e-Library
- 2021 – 2023 **Chair:** IEEE Uttar Pradesh Section, India
- 2021 – 2022 **Member:** Board of Studies, Computer Science and Engineering, BNMIT Bangluru
- 2021 – 2022 **Member:** Board of Studies, Dept of CSE, Center for Advance Studies, UPTU Lucknow
- 2021 – 2023 **Member:** Academic Council, SRCCEM Lucknow
- 2020 – 2021 **Member:** Recruitment, and Assessment Committee, DRDO, Ministry of Defence, Gol, India
- 2020 – 2022 **Expert:** All India Council for Technical Education, Approval Committee, MHRD, Gol, India
- 2020 – 2022 **Convener:** DRDO-Academia Collaboration Committee, IIIT Allahabad, India
- 2019 – 2020 **Correspondence In-charge:** ISRO-IIITA MoU, IIIT Allahabad, India
- 2019 – 2021 **Convener:** DPGC (IT), IIIT Allahabad, India
- 2020 **Vice-Chair:** IEEE India Council, India
- 2019 – 2020 **Vice-Chair:** IEEE Uttar Pradesh Section, India
- 2018 – 2020 **Faculty I/C:** SPARC, Ranking and Accreditation, IIIT Allahabad
- 2018 – 2020 **Member:** Board of Studies, Dept of IT&CA, MMMUT, Gorakhpur

- 2018 – 2020 **Secretary:** IEEE Uttar Pradesh Section, India
- 2017 – 2019 **Secretary:** SPS Chapter, IEEE Uttar Pradesh Section, India
- 2016 – 2017 **Treasurer:** IEEE Uttar Pradesh Section, India
- 2017–2018 **Faculty I/C:** NIRF IIIT Allahabad
- 2017–2018 **Member:** Students' Travel Support Committee, IIIT Allahabad
- 2017 **Member:** Board of Studies, Dept of CSE, MMMUT, Gorakhpur
- 2017 **Faculty I/C:** Transport, IIIT Allahabad
- 2017 **Chairman:** PhD (IT) Screening Committee IIIT Allahabad
- 2016 – 2017 **Convener:** Standing Technical Committee of CPC, IIIT Allahabad
- 2015 **Joint-Secretary:** IEEE Uttar Pradesh Section, India
- 2015 – 2017 **Member:** DPGC IIIT Allahabad
- 2015 – 17 **Member Secretary:** Students' Travel Support Committee, IIIT Allahabad
- 2014 – 2016 **Secretary:** SP/C Joint Chapter, IEEE Uttar Pradesh Section, India
- 2014 **Convener:** Website and News Letter Committee, IEEE Uttar Pradesh Section, India
- 2014 – 2016. **Assistant Proctor:** Indian Institute of Information Technology, Allahabad
- 2013 – 2017 **Faculty Coordinator:** IEEE Students' Branch, IIIT Allahabad
- 2014 **Observer:** AICTE, New Delhi, CMAT Allahabad
- 2014 **Organizing Committee:** Effervescence, Indian Institute of Information Technology, Allahabad
- 2013–2014 **Faculty Chairman:** Technical Club, IIIT Allahabad
- 2013 **Member:** M.Tech admission committee (IT), IIIT Allahabad
- 2011–2012 **Warden:** Boys Hostel, (H10-11-12)
- 2006–2012 **Counselor:** IETE Students' Forum JUET Guna
- 2010–2012 **PG Coordinator:** for Dept. of ECE
- 2010 –2012 **Member:** DPMC in Computer Science and Engineering
- 2010 –2012 **Member:** DPMC in Electronics and Communication Engineering
- 2009 –2012 **Member:** University Discipline Committee
- 2006 – 2009 **Warden:** Boys Hostel, (H4-5-6)

## Publications

### Journals/Transactions Published/Accepted

- 2022 [60] Nand Kumar Yadav, **Satish Kumar Singh**, and Shiv Ram Dubey "TVA-GAN: Attention Guided Generative Adversarial Network For Thermal To Visible Face Transformations," Neural Computing and Applications, Accepted (Springer) **[IF: 6.94]**
- 2023 [59] Sumit Kumar, **Satish Kumar Singh**, Peter Peer "Occluded thermal face recognition using BoCNN and radial derivative Gaussian feature descriptor," Image and Vision Computing, Volume 132, April 2023, 104646 (Elsevier) **[IF:3.86]**
- 2022 [58] Nand Kumar Yadav, **Satish Kumar Singh**, and Shiv Ram Dubey "MobileAR-GAN: MobileNet based Efficient Attentive Recurrent Generative Adversarial Network for Infrared to Visual Transformations," IEEE Transactions on Instrumentation and Measurement, Vol. 71, pp. (IEEE) **[IF: 5.6]**
- 2022 [57] Shiv Ram Dubey, S.H. Shabbeer Basha, **Satish Kumar Singh**, and B. B. Chaudhuri "AdaInject: Injection Based Adaptive Gradient Descent Optimizers for Convolutional Neural Networks," IEEE Transactions on Artificial Intelligence (IEEE) **[IF: 5.7]**
- 2022 [56] Shiv Ram Dubey, **Satish Kumar Singh**, and B. B. Chaudhuri "Activation functions in deep learning: A comprehensive survey and benchmark," Neurocomputing, Accepted (Elsevier) **[IF: 5.7]**

- 2022 [55] Nand Kumar yadav, **Satish Kumar Singh**, and Shiv ram Dubey "MobileAR-GAN: MobileNet based Efficient Attentive Recurrent Generative Adversarial Network for Infrared to Visual Transformations," IEEE Transactions on Instrumentation and Measurement, Accepted (IEEE) **[IF: 4.0]**
- 2022 [54] Nayaneesh Mishra, Sumit Kumar, and **Satish Kumar Singh**, "MmLwThV framework: A masked face periocular recognition system using thermo-visible fusion," Applied Intelligence, Accepted (Springer) **[IF: 5.1]**
- 2022 [53] Sumit Kumar, **Satish Kumar Singh**, Nayaneesh Mishra, and Mainak Dutta "An encoder-decoder based thermo-visible image translation for disguised and undisguised faces," Image and Vision Computing, (Springer) **[IF:3.86]**
- 2021 [52] Nayaneesh Mishra, and **Satish Kumar Singh**, "Face Recognition Using 3D CNN and Hardmining Loss Function," SN Computer Science (Springer)
- 2021 [51] Dipti Mishra, **Satish Kumar Singh**, and Rajat Kumar Singh, "Deep CNN based Image Compression with Redundancy Minimization via Attention Guidance," Neurocomputing (Elesvier) **[IF: 7.1]**
- 2021 [50] Nayaneesh Mishra, Sumit Kumar, and **Satish Kumar Singh**, "MmLwThV framework: A Masked Face Periocular Recognition System using Thermo-visible Fusion," Applied Intelligence (Springer) **[IF:5.08]**
- 2021 [49] Nayaneesh Mishra, and **Satish Kumar Singh**, "Regularized Hardmining Loss for Face Recognition," Image and Vision Comuting (Elesvier) **[IF:3.86]**
- 2021 [48] Nand Kumar Yadav, **Satish Kumar Singh**, and Shiv Ram Dubey "CSA-GAN: Cyclic Synthesized Attention Guided Generative Adversarial Network for Face Synthesis," Applied Intelligence (Springer) **[IF:5.08]**
- 2021 [47] Shiv Ram Dubey, **Satish Kumar Singh**, and Bidyut Baran Chaudhuri "A Comprehensive Survey and Performance Analysis of Activation Functions in Deep Learning," Artificial Intelligence Review (Springer) **[IF:8.12]**
- 2021 [46] Dipti Mishra, **Satish Kumar Singh**, and Rajat Kumar Singh, "Deep Architectures for Image Compression: A Critical Review," Signal Processing, Volume 191, February 2022, (Elesvier) **[IF: 4.66]**
- 2021 [45] Nayaneesh Mishra, Mainak Dutta, and **Satish Kumar Singh** "Multiscale Parallel Deep CNN (mpdCNN) Architecture for the Real Low-Resolution Face Recognition for Surveillance," Image and Vision Computing, Volume 115, November 2021, (Elesvier) **[IF: 2.81]**
- 2021 [44] Dipti Mishra, **Satish Kumar Singh**, Rajat Kumar Singh, and Himanshu Kedia "Multi-Scale Network (MsSG-CNN) for Joint Image and Saliency Map Learning-based Compression," Neurocomputing, Accepted (Elesvier) **[IF: 7.1]**
- 2021 [43] Suvidha Tripathi, and **Satish Kumar Singh** "An End-to-End Breast Tumour Classification Model Using Context-Based Patch Modelling- A BiLSTM Approach for Image Classification," Computerized Medical Imaging and Graphics, Submitted (Elsvier) **[IF: 3.75]**
- 2020 [42] Anamika Jain, **Satish Kumar Singh**, and Krishna Pratap Singh "Signature Verification using Geometrical Features and Artificial Neural Network Classifier," Neural Computing and Applications, Accepted (Springer) **[IF:4.77]**
- 2020 [41] Anamika Jain, **Satish Kumar Singh**, and Krishna Pratap Singh "Multitask learning using GNet features and SVM classifier for Signature Verification," IET Biometrics, Accepted (IET) **[IF:2.2]**
- 2020 [40] Kapil Mishra, **Satish Kumar Singh**, Sannihith Kavala, and P. Nagabhushan, "Efficient Collusion Resistant Multi-Secret Image Sharing," Multimedia Tools and Applications, Accepted (Springer) **[IF: 2.34]**
- 2020 [39] Suranjan Goswami, and **Satish Kumar Singh** "A Simple Deep Learning Based Image Illumination Correction Method for Paintings," Pattern Recognition Letters, Accepted (Elsvier) **[IF:3.73]**

- 2020 [38] Dipti Mishra, **Satish Kumar Singh**, and Rajat Kumar Singh "Wavelet-based Deep Auto Encoder-Decoder (WDAED) based Image Compression," IEEE Transactions on Circuits and Systems for Video Technology, vol.31, no.4, pp.1452-1462, 2021 (IEEE) [IF: 4.13]
- 2020 [37] Sumit Kumar, and **Satish Kumar Singh**, "Occluded Thermal Face recognition using Bag of CNN (BoCNN)," IEEE Signal Processing Letters, vol.27, no. 17, pp. 975-979, 2020 (IEEE) [IF: 3.26]
- 2020 [36] Suvidha Tripathi, and **Satish Kumar Singh**, "Cell Nuclei Classification In Histopathological Images using Hybrid OLConvNet," ACM Transactions on Multimedia Computing, Communications, and Applications, vol.16, no.1s, pp.1-22, art.32, 2020 (ACM) [IF: 2.5]
- 2020 [35] Soumendu Chakraborty, **Satish Kumar Singh**, and Kush Kumar "Facial Biometric System for Recognition using Extended LGHP Algorithm on Raspberry-Pi," IEEE Sensors Journal, vol.20, no.14, pp.8117 - 8127, 2020 (IEEE) [IF: 3.0]
- 2020 [34] Anamika Jain, **Satish Kumar Singh**, and Krishna Pratap Singh "Handwritten Signature Verification using Shallow Convolutional Neural Network," Multimedia Tools and Applications, Accepted (Springer) [IF:2.1]
- 2020 [33] Shiv Ram Dubey, Soumendu Chakraborty, Swalpa Roy, **Satish Kumar Singh**, and Bidut Baran Choudhury, "diffGrad: An Optimization Method for Convolutional Neural Networks," IEEE Transactions on Neural Networks and Learning Systems, Accepted DOI:10.1109/TNNLS.2019.2955777 (IEEE) [IF: 11.6]
- 2020 [32] Suvidha Tripathi, and **Satish Kumar Singh** "Ensembling Handcrafted features with Deep Features: An Analytical Study for Classification of Routine Colon Cancer Histopathological Nuclei Images," Multimedia Tools and Applications, Accepted (Springer) [IF: 2.1]
- 2019 [31] Soumendu Chakraborty, **Satish Kumar Singh**, and Pavan Chakraborty, "Cascaded Asymmetric Local Pattern: A Novel Descriptor for Unconstrained Face Recognition and Retrieval", Multimedia Tools and Applications, vol.78, no. 17, pp 25143–25162, 2019 (Springer) [IF: 2.1]
- 2019 [30] Soumendu Chakraborty, **Satish Kumar Singh**, Pavan Chakraborty,, "R-theta Local Neighborhood Pattern for Unconstrained Facial Image Recognition and Retrieval," Multimedia Tools and Applications, vol.78, no.11, pp 14799–14822, 2019 (Springer) [IF: 2.1]
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- 2017 [26] Shiv Ram Dubey, **Satish Kumar Singh**, Rajat Kumar Singh, "Local SVD Based NIR Face Retrieval," Journal of Visual Communication and Image Representation, vol.49, no.C, pp.149-152, 2017. (Elsevier) [IF: 2.16]
- 2017 [25] Sourabh Shrivastava, **Satish Kumar Singh**, Dhara Singh Hooda, "Soybean Plant Foliar Disease Detection Using Image Retrieval Approachs," Multimedia Tools and Applications, DOI: 10.1007/s11042-016-4191-7. (Springer) [IF: 2.1]
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### Conferences

- 2023 [38] Shiv Ram Dubey, **Satish Kumar Singh**, and Bidyut Baran Chaudhuri "AdaNorm: Adaptive Gradient Norm Correction based Optimizer for CNNs" *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)* pp. 5284-5293, 2023
- 2023 [37] Hareshkumar Bababhai Kathodia, **Satish Kumar Singh**, and Shiv Ram Dubey "DCT-SwinGAN: Leveraging DCT and Swin Transformer for Face Synthesis from Sketch and Thermal Domains" *8th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP)* November 2023
- 2023 [36] Anjali Gautam, and **Satish Kumar Singh** "Analysis of Deep Learning Models to Detect Breast Cancer from Histopathology Images" *IEEE Region 10 Conference, (TENCON)* Oct 31-Nov 3, 2023
- 2022 [35] Shiv Ram Dubey, **Satish Kumar Singh**, and Wei-Ta Chu "Vision Transformer Hashing for Image Retrieval" in *Proc. of the IEEE International Conference on Multimedia and Expo (ICME)* July 2022
- 2022 [34] Naman Goel, and **Satish Kumar Singh** "Diabetic Retinopathy Image Analysis Using Deep Learning Techniques" in *Proc. of the 9th IEEE International Conference of Electrical, Computer and Electronics (IEEE UPCON)* December 2022
- 2022 [33] Suranjan Goswami, **Satish Kumar Singh**, and Bidyut Baran Chaudhuri "A Novel Deep Learning Method for Thermal to Annotated Thermal-Optical Fused Images" *7th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP)* November 2022
- 2022 [32] Samiksha Gupta, **Satish Kumar Singh**, and Xiaoyi Jiang "Leveraging Tri-Planar Views and Transfer Learning to Classify Lung Nodule Malignancy" *7th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP)* November 2022
- 2022 [31] Achyut Dubey, **Satish Kumar Singh**, and Xiaoyi Jiang "Leveraging CNN and Transfer Learning for Classification of Histopathology Images" *7th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP)* November 2022
- 2022 [30] Riya Shah, Anjali Gautam, and **Satish Kumar Singh** "Generative Adversarial Networks for Inpainting Occluded Face Images" in *Proc. of the 6th IEEE International Conference Information and Communication Technology (ICT)* November 2022

- 2022 [29] Akhilesh Kumar, **Satish Kumar Singh**, and Shiv Ram Dubey "Target Detection Using Transformer: A Study Using DETR" IAPR International Conference on Computer Vision and Machine Intelligence, (IAPR CVMI) August 2022
- 2022 [28] Priyank Makwana, **Satish Kumar Singh**, and Shiv Ram Dubey "Resolution Invariant Face Recognition" IAPR International Conference on Computer Vision and Machine Intelligence, (IAPR CVMI) August 2022
- 2022 [27] Anubhab Nandi, and **Satish Kumar Singh** "Face Spoofing and Presentation Attack Detection" IEEE World Conference on Applied Intelligence and Computing (IEEE AIC) June 2022
- 2022 [26] Dipti Mishra, **Dr. Satish Kumar Singh**, "ColCompNeT: Deep Learning based Colorization based Coding Network" at 4th International Conference on Machine Intelligence and signal Processing (MISP) March 2022
- 2022 [25] Suranjan Goswami, and **Satish Kumar Singh** "A Simple Mutual Information based Registration Method for Thermal-Optical Image Pairs applied on a Novel Dataset", IEEE International Conference of Emerging Technologies (IEEE INCET) March 2022
- 2021 [24] Anamika Jain, **Satish Kumar Singh**, and Krishna Pratap Singh "Signature based Authentication: A Multi-Label classification approach to detect the language and forged sample in signature", 6th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP) December 2021
- 2021 [23] Vishal Kumar, Albert Mundu, and **Satish Kumar Singh** "Scene Graph Generation with Geometric Context", 6th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP) December 2021
- 2021 [22] Vyas Rushi Bhavesh, and **Satish Kumar Singh** "Selective Kernel Networks and Application in Classification", 8th IEEE Conference on Computer, Electronics and Electrical, (IEEE UPCON) November 2021
- 2020 [21] Nayaneesh Mishra, **Dr. Satish Kumar Singh**, "Face Recognition using Sf3CNN with Higher Feature Discrimination" at 5th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP) December 2020
- 2020 [20] Deeksha Khash, Sumit Kumar, **Dr. Satish Kumar Singh**, "Facial Occlusion Detection and Reconstruction using GAN" at 5th IAPR International Conference on Computer Vision and Image Processing, (IAPR CVIP) December 2020
- 2020 [19] Dipti Mishra, **Dr. Satish Kumar Singh**, Dr. Rajat Kumar Singh, "Near Lossless Medical Image Compression using Dual Autoencoder Model" at 7th IEEE International Conference on Electrical, Electronics and Computer Engineering, (IEEE UPCON) December 2020
- 2019 [18] Nayaneesh Kumar Mishra, **Satish Kumar Singh**, "Face Recognition using 3D CNNs", 1st International Conference on Machine Learning, Image Processing, Network Security and Data Sciences, March, 2019.
- 2018 [17] Sumit Kumar, **Satish Kumar Singh**, "A Comparative Analysis on the Performance of Different Handcrafted Descriptors Over Thermal and Low Resolution Visible Image Dataset", In Proc. Of the 5th IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON), December 2018.
- 2018 [16] Suvidha Tripathi, **Satish Kumar Singh**, "Histopathological Image Classification: Defying Deep Learning Architectures on Complex Data". In Proc. Of Recent Trends in Image Processing and Pattern Recognition Conference, Springer, CCIS, 2018.
- 2018 [15] Kapil Mishra, **Satish Kumar Singh**, and P. Nagabhushan, "An Improved SVD based Image Compression", In Proc. Of the 2nd IEEE Conference on Information and Communication Technology (CICT), October 2018.
- 2017 [14] Thuniki Yashwanth Reddy, **Satish Kumar Singh**, "A Novel Variable Block-Size Image Compression Based On Edge Detection", In Proc. Of the 1st IEEE Sponc. Conference on Information and Communication Technology (CICT), November 2017.

- 2016 [13] SuvidhaTripathi, Salini Mishra, **Satish Kumar Singh**, "Routine Colon Cancer Detection using Local Image Descriptors", In Proc. Of the IEEE R10 Conference (TENCON), November 2016.
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- 2015 [11] Shiv Ram Dubey, **Satish Kumar Singh**, Rajat Kumar Singh, "Boosting Local Binary Pattern with Bag-of-Filters for Content Based Image Retrieval", In Proc. Of the IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON), December 2015.
- 2011 [10] Madhur Srivastava, YashwantYashu, **Satish Kumar Singh**, "Multisegmentation through Wavelets: Comparing the Efficiency Daubechies vs Coiflet", In Proc. Of the IEEE conference on Signal Processing and Real Time Operating System (SPRTOS-2011).
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- 2010 [8] Shishir Kumar, **Satish Kumar Singh**, "Study and Implementation of Entropy Encoding System for Image compression", In Proc. Of the 3rd IEEE conference on emerging trends in engineering and technology (ICETET-2010), pp. 186-191, Nov 19-21, 2010.
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- 2007 [4] Shishir Kumar, S. K. Verma, **Satish Kumar Singh**, "A Framework for Efficient Video Delivery in CDNS", In Proc. Of the International Conference on Information & Communication Technology (IICT-2007), pp. 736-739, July 26-28, 2007.
- 2007 [3] **Satish Kumar Singh**, Shishir Kumar, G. S. Tomar, Ravi Kumar, Gaurav Santhalia, "A modified framework of a Clustering Algorithm for Image Processing Applications", In Proc. Of the 1st IEEE Conference on Modeling & Simulation(AMS 2007), pp. 434-437, March 27-30, 2007.
- 2007 [2] **Satish Kumar Singh**, Shishir Kumar, S. V. Nakhe, "Command Charging Circuit with Energy Recovery for Pulsed power Supply for Copper Vapor Laser", Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications, pp.413-417, 2007. (Springer) ISBN: 978-1-4020-6265-0 (HB) / 978-1-4020-6266-7 (E-book).
- 2006 [1] **Satish Kumar Singh**, Shishir Kumar, S. V. Nakhe, "Command Charging Circuit with Energy Recovery for Pulsed Power Supply of Copper Vapor Laser", In Proc. Of the IEEE Conference on Industrial Electronics, Technology & Automation(IETA-2006), pp. 413-417, December 4-14, 2006.

### Book /Book-Chapters

- 2021 [3] **Book Title:** Computer Vision and Image Processing.  
**Co-authors:** P. Nagabhushan, Balasubramanian Raman, and Partha Pratim Roy  
**Publisher:** Springer Singapore  
**ISBN:** 9789811611032, 9811611033

- 2021 [2] **Book Title:** Biomedical Signal and Image Processing with Artificial Intelligence.  
**Chapter Details:** An Object Aware Hybrid U-Net for Breast Tumour Annotation, pp.xx-xx.  
**Co-authors:** Suvidha Tripathi  
**Publisher:** EAI and Springer
- 2007 [1] **Book Title:** Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications.  
**Chapter Details:** Command Charging Circuit with Energy Recovery for Pulsed power Supply for Copper Vapor Laser, pp.413-417.  
**Co-authors:** Shishir Kumar and S. V. Nakhe  
**Publisher:** Springer, Netherlands, EU.  
**ISBN:** 9781402062650, 9781402062667

## PhD Supervision

<b>Awarded/Submitted: 10</b>	<b>Ongoing: 07</b>
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- 2023 **Image to Image Translation using Generative Adversarial Networks**  
**Name:** Nand Kumar Yadav (Enrolment: PIS2016004)  
**Institute/University:** IIIT Allahabad  
**Employment:** Research Associate IIIT Allahabad
- 2022 **Multibiometrics Face Recognition**  
**Name:** Sumit Kumar (Enrolment: PHC2014001)  
**Institute/University:** IIIT Allahabad  
**Employment:** Assistant Professor Dept. of CSE, Thapar University Punjab, India
- 2022 **Face Recognition under Constrained Environment**  
**Name:** Nayaneesh Kumar Mishra (Enrolment: RSI2016003)  
**Institute/University:** IIIT Allahabad  
**Employment:** Director, NCode Sutram for Artificial Intelligence
- 2021 **Visual Information Aware Image Compression using Deep Learning Methods**  
**Name:** Dipti Mishra (Enrolment: RSE2017502)  
**Institute/University:** IIIT Allahabad  
**Employment:** Mahindra Ecole Centrale (Mahindra University) Hyderabad
- 2021 **Offline Signature Verification**  
**Name:** Anamika Jain (Enrolment: RSI2016005)  
**Institute/University:** IIIT Allahabad  
**Employment:** Assistant Professor, CSE, MIT-WPU, Pune
- 2020 **Histopathological Image Analysis using Hybrid Deep Learning Models**  
**Name:** Suvidha Tripathi (Enrolment: RSI2015002)  
**Institute/University:** IIIT Allahabad  
**Employment:** Assistant Professor, LNMIIT Jaipur, India
- 2018 **Facial Image Description for Recognition and Retrieval**  
**Name:** Soumendu Chakraborty (Enrolment: RS160)  
**Institute/University:** IIIT Allahabad  
**Employment:** Assistant Professor, IIIT Lucknow, India
- 2016 **Robust Image Feature Description, Matching, and Applications**  
**Name:** Shiv Ram Dubey (Enrolment: RS136)  
**Institute/University:** IIIT Allahabad  
**Employment:** Assistant Professor, IIIT Sri City/ Allahabad, India
- 2016 **Multimodal Approach for Hand Biometrics**  
**Name:** Shefali Sharma (Enrolment: 10P3104)  
**Institute/University:** JUET Guna  
**Employment:** Assistant Professor, JUET Guna, India

- 2015 **Soybean Disease Administration**  
**Name:** Sourabh Shrivastava (Enrolment: 11P3204)  
**Institute/University:** JUET Guna  
**Employment:** Assistant Professor, IIIT Pune / Sr. Manager, Data Science, Reliance, India

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## MTech Supervision

<b>Awarded: 34</b>	<b>Ongoing: 8</b>
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- 2021 **Scene Graph Generation with Geometric Context**  
**Name:** Vishal Kumar (Enrolment: MIT2019090)  
**Institute/University:** IIIT Allahabad
- 2021 **Selective Kernel Networks and Application in Classification**  
**Name:** Vyas Rushi Bhavesh (Enrolment: MIT2019103)  
**Institute/University:** IIIT Allahabad
- 2021 **Extreme point based Apparel Detection**  
**Name:** Harish Kumar (Enrolment: MIT2019112)  
**Institute/University:** IIIT Allahabad
- 2021 **Deep Learning based Biometrics Occluded Face Recognition**  
**Name:** Mayank Kabra (Enrolment: MIT2019051)  
**Institute/University:** IIIT Allahabad
- 2020 **Attention-based Translation Embedding for Visual Relationship Detection**  
**Name:** Himanshu Singh (Enrolment: MIT2018031)  
**Institute/University:** IIIT Allahabad
- 2020 **Study of Occlusion Detection and Removal**  
**Name:** Diksha Khas (Enrolment: MIT2018032)  
**Institute/University:** IIIT Allahabad
- 2020 **Hand Crafted Feature Extraction For Histopathology Images**  
**Name:** Rahul Jaiswal (Enrolment: MIT2018023)  
**Institute/University:** IIIT Allahabad
- 2019 **Image Deblurring of Motion Blur Using Encoder-Decoder Residual Networks**  
**Name:** Ankit Kumar (Enrolment: IHC2014004)  
**Institute/University:** IIIT Allahabad
- 2019 **Collusion Resistant Multi-Secret Image Sharing**  
**Name:** Sannihit Kavala (Enrolment: IHC2014004)  
**Institute/University:** IIIT Allahabad
- 2019 **Real Low Resolution and Thermal Image Recognition via Image-to-Image Translation using Deep Learning Architectures**  
**Name:** Mainak Dutta (Enrolment: IR02017009)  
**Institute/University:** IIIT Allahabad
- 2019 **Deep Learning**  
**Name:** Polaki Kishore Babu (Enrolment: IR02017007)  
**Institute/University:** IIIT Allahabad
- 2019 **Image Processing**  
**Name:** Alok Kumar (Enrolment: IHC2017010)  
**Institute/University:** IIIT Allahabad
- 2019 **Deep Plant-Image Classification and Recognition**  
**Name:** Nirbhay Pandey (Enrolment: ISE2017011)  
**Institute/University:** IIIT Allahabad
- 2018 **Analysis of Hybrid CNN Discreptor Model for Facial Expression Recognition**  
**Name:** Sapna Nirapure (Enrolment: PIS2015002)  
**Institute/University:** IIIT Allahabad

- 2018 **Deep CNN for Image Reconstruction using Residual Learning**  
**Name:** Mukut Brahma (Enrolment: IHC2016010)  
**Institute/University:** IIIT Allahabad
- 2018 **Fusion of Visible and Thermal Image using DT-DWT and PSO**  
**Name:** Ritu Raj Priyadarshi (Enrolment: IIS2016008)  
**Institute/University:** IIIT Allahabad
- 2017 **Face Recognition with Alternating Least Square Method**  
**Name:** Jitendra (Enrolment: IIS2015003)  
**Institute/University:** IIIT Allahabad
- 2017 **Fusion in Multimodal Biometric Recognition System**  
**Name:** Ashish Kumar (Enrolment: IHC2015007)  
**Institute/University:** IIIT Allahabad
- 2017 **Biomedical Image Segmentation for Mouse Embryo and Drosophila cell count using Monte Carlo Tree Search**  
**Name:** Vipin Patel (Enrolment: IHC2015005)  
**Institute/University:** IIIT Allahabad
- 2017 **Facial Biometric System Design and Implementation using Extended LGHP**  
**Name:** Kush Kumar (Enrolment: IHC2015006)  
**Institute/University:** IIIT Allahabad
- 2015 **FPGA implementation of Memory-Delay Efficient 2D FIR Filter**  
**Name:** TanuGinotra (Enrolment: IMI2013016)  
**Institute/University:** IIIT Allahabad
- 2015 **Fruit Detection and Tagging using Image Processing Techniques**  
**Name:** Raghvendra Singh (Enrolment: IRO2013012)  
**Institute/University:** IIIT Allahabad
- 2015 **Automatic Human Action Recognition using Eigen Joints**  
**Name:** Ajay Kumar (Enrolment: IRO2013010)  
**Institute/University:** IIIT Allahabad
- 2015 **FPGA implementation of RNS based DSP Architecture**  
**Name:** RitikaKhurana (Enrolment: IMI2013005)  
**Institute/University:** IIIT Allahabad
- 2014 **Real Time FPGA implementation of Grey Scale Image Watermarking with Camera Interface**  
**Name:** RadheShyam Kumar Gupta (Enrolment: IMI2012013)  
**Institute/University:** IIIT Allahabad
- 2014 **Voice Controlled Interactive Gripper (VCI-G)**  
**Name:** Chandra Shekhar Ram (Enrolment: IRO2012010)  
**Institute/University:** IIIT Allahabad
- 2014 **Voice Signal Processing and Application to Intelligent System**  
**Name:** Abhay Kumar (Enrolment: ICE2012016)  
**Institute/University:** IIIT Allahabad
- 2014 **Writing Support System for Blinds using Gesture Recognition**  
**Name:** Gaurav Modanwal (Enrolment: ICE2012014)  
**Institute/University:** IIIT Allahabad
- 2014 **Advanced Peripheral Bus Design and Verification**  
**Name:** Prashant Dwivedi (Enrolment: IMI2012011)  
**Institute/University:** IIIT Allahabad
- 2014 **Liveness Detection of Face**  
**Name:** Ankit (Enrolment: IRO2012011)  
**Institute/University:** IIIT Allahabad

- 2014 **Analysis of subsumption Architecture using Linear Time Variant Scheduler**  
**Name:** Ankit Sharma (Enrolment: IRO2012001)  
**Institute/University:** IIIT Allahabad
- 2013 **Textured Gray Formation and application to compression**  
**Name:** P. K. Bharti (Enrolment: )  
**Institute/University:** JUET Guna
- 2012 **Deployment of Technique for Rightful Ownership using HVS based Adaptive Watermarking Mechanism**  
**Name:** Saurabh Sharma (Enrolment: 102128)  
**Institute/University:** JUET Guna
- 2012 **Image Encryption using Visual Secret Sharing Schemes with Improved Performance**  
**Name:** Vineet Kumar Singh (Enrolment: 102013)  
**Institute/University:** JUET Guna

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## Overseas Experience

Nov 21 – Dec 02, 2016 **Singapore, Singapore**

**Organization:** Imaging Informatics Division, Bioinformatics Institute, Agency for Science, Technology and Research (A-STAR), Republic Of Singapore.

**Purpose:** Purpose of the visit was Scientific Engagement, Exchange, Sharing of Ideas, Discussion of possibilities of Joint Research Collaboration between BII, Singapore and IIIT Allahabad, Exchange of Students, Joint PhD Supervision and many more.

**Outcome:** (a) MOU between BII Singapore and IIIT Allahabad has been executed by Director and myself on behalf of IIIT Allahabad and Frank Eisenhaber (Executive Director) and Lee Hwee Kuan on behalf of BII Singapore for promoting the joint research and development activities for the purpose of developing new and novel methods in reflectance spectroscopy and digital pathology. (b) Lee Hwee Kuan has been agreed thereafter engaged as the overseas joint PhD supervisor with me for one of my PhD students Ms. Suvidha Tripathi who is currently registered in IIIT Allahabad.

Feb 2016 **Bangkok, Thailand**

**Organization:** IEEE Thailand Section

**Purpose:** To represent the IEEE Uttar Pradesh Section including the Uttar Pradesh, Uttarakhand and Nepal as primary nominated delegate in the IEEE Region-10 (Asia Pacific) Meeting.

**Outcome:** Participated in the meeting and raised and debated on various important issues related to the India. Established the presence of IIIT Allahabad at Asia pacific level.

June 10–15, 2013 **Alghero, Italy**

**Organization:** University of Sassari, Italy

**Purpose:** For attending the 10th Summer School for Advanced Studies on Biometrics for Secure Authentication and getting the insight of the latest state of the art techniques and methods in the area of biometrics. To establish the networking among the experts and peers working in this active area of research.

**Outcome:** Started research in the area of biometrics and Produced 3 PhD, whereas 6 in the pipeline. Few M.Tech students also started doing research in this area. Established the presence of IIIT Allahabad by Publishing the articles in various SCI Journals like IEEE TIFS, ESWA, MTAP etc. The development of the Computer Vision and Biometrics lab is underway.

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## Short Term Programs/Workshops

July 03-08, 2017 **Summer School on Computer Vision**

Recent Advances in Computer Vision, IIIT Hyderabad.

July 10-15, 2017, **Summer School on Machine Learning**

- Deep Learning, IIIT Hyderabad.
- Dec 12, 2014 **IEEE Global Early Career Faculty Virtual Mini Conference on Effective Teaching**  
IEEE Educational Activity Board, New York.
- June 10-15, 2013 **10th Summer School on Biometrics**  
IEEE, IAPR and Organized by University of Sassari, Italy.
- June 06-10, 2011 **IUCEE-Workshop on Image Processing and Digital Communication (IPDC)**  
JUET Guna, Madhya Pradesh.
- May 13-14, 2005 **National workshop on challenges in VLSI (NWCV)**  
DAIICT-Gandhinagar, Gujarat.

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## Reviewing Services

**IEEE Transactions on Image Processing**  
**IEEE Transactions on System, Man, & Cybernetics**  
**IEEE Transactions on Multimedia**  
**IEEE Transactions on Circuits, & Systems for Video Technology**  
**IEEE Sensors Journal**  
**IEEE Transactions on Broadcasting**  
**IEEE Access**  
**ACM Multimedia Computing, Communications, & Applications**  
**IET Image Processing**  
**IET Communications**  
**Elsevier Pattern Recognition Letters**  
**Elsevier Expert System With Applications**  
**Elsevier Computer, & Electrical Engineering**  
**Oxford The Computer Journal**  
**Springer Circuits, Systems & Signal**  
**Springer Nature**  
**Electronic Letters on Computer Vision, & Image Analysis**  
**Taylor and Francis Information Security Journal**

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## Technical Program Committee Services

- 2019 International Conference on Computer Vision & Image Processing
- 2019 IEEE Conference on Information and Communication Technology
- 2018 IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON)
- 2018 Conference on Information and Communication Technology
- 2017 Conference on Information and Communication Technology
- 2017 IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON)
- 2017 Latest Advances in Machine learning and Data Science (LAMDA)
- 2017 9th IEEE International Conference on Computational Intelligence and Communication Networks (CICN)
- 2017 3rd International Conference on Next Generation Computing Technologies (NGCT)
- 2017 IEEE International Conference on Computing, Communication and Automation (ICCCA)
- 2016 IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON)
- 2015 IEEE UP Section Conference on Electrical, Computer and Electronics (UPCON)
- 2014 IEEE International Conference on Medical Imaging, m-Health & Emerging Communication Systems (MEDCOM)
- 2011 IEEE Symposium on Computers and Informatics (ISCI)

- 2011 IEEE Symposium on Industrial Electronics and Applications (ISIEA)
- 2009 IET-MIC-CSC
- 2008 IET-MIC-CNIT

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## Intern Supervision

- 2019 **3D Architecture For Face Recognition In Videos**  
Name(s): Amartya Salpekar
- 2019 **Learning Face Age Progression: A Pyramid Architecture Of Gans**  
Name(s): Shivani Kushwaha
- 2019 **Online Signature Verification On Mobile Devices**  
Name(s): Gehan Chopade
- 2019 **Active Learning With Noise Modeling For Medical Image Annotation, 2018**  
Name(s): Kuntal Sarkar
- 2019 **Generating Visible Spectrum Images From Thermal Infrared**  
Name(s): Gautam Kumar
- 2019 **Face Recognition Using 3D CNN In YTF Database**  
Name(s): Mayank Gupta
- 2019 **Fully Convolutional Networks For Semantic Segmentation**  
Name(s): Mohd Faizan
- 2019 **Densely Connected Convolutional Networks**  
Name(s): Krishan Gopal Saraswat
- 2019 **Generalizing Fingerprint Spoof Detector: Learning A One-Class Classifier**  
Name(s): Sahil Bhola
- 2019 **Object Instance Segmentation Using Mask RCNN**  
Name(s): Swagata Kundu
- 2019 **Detection Of Cancer Using Deep CNN**  
Name(s): Shetty Sonali Shruthi Kamath
- 2019 **ArecaNut Classifier Using Deep Learning**  
Name(s): Karthik M R, Sujay
- 2019 **Multi-Secret Image Sharing Schemes Based On Boolean Operation**  
Name(s): Darshan P B
- 2019 **Breast Biopsy Segmentation Using U-Net**  
Name(s): Rakshith Umesh Rai, Rakesh M Kotian
- 2019 **Classification And Identification of Blood Cell Using CNN And RNN**  
Name(s): Sangeetha N A-Shaima Abdul Kader
- 2019 **An Image Compression And Encryption Scheme Based On Deep Learning**  
Name(s): Afrah Saleem, Vaibhavi Sahukar
- 2019 **Image Compression Using GAN**  
Name(s): Sushanth S, Dheeraj Shetty
- 2019 **Signature Forgery Detection Using Deep Learning**  
Name(s): Sainath Acharya, Akshay Hegde
- 2019 **Efficient And Secure Multi Secret Sharing Schemes Based On Boolean XOR And Arithmetic Modulo**  
Name(s): Rakesh M R
- 2018 **Automatic Job Providing Portal Using Machine Learning**  
Name(s): Shubham Jaiswal
- 2018 **Crowd Based Multiple Face Detection Recognition And Database Maintenance of The Same**  
Name(s): Jitumani Bhagabati, Saurabh Kumar

- 2018 **Breast Cancer Detection In Whole Slide Image**  
Name(s): Surabhi Singh
- 2018 **Object Detection Using CNN Framework**  
Name(s): Renu Mishra
- 2018 **Face Detection And Facial Feature Extraction In Unconstrained Environment With Variations In Alignment And Pose Estimation**  
Name(s): Fahad Siddiqui
- 2018 **Face Recognition System Using Transfer Learning**  
Name(s): Amit Kumar Singh
- 2018 **Application Of Deep Learning In Whole Slide Imaging**  
Name(s): Anirudh Ramesh
- 2018 **Face Recognition From Video Using Deep Learning**  
Name(s): Rajat Sharma

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## List of Referees

- [1] **Dr. Sri Nivas Singh**, Fellow IEEE  
Professor, Indian Institute of Technology, Kanpur  
Email: snsingh@iitk.ac.in
- [2] **Dr. B. B. Chaudhuri**, Fellow IEEE  
ExProfessor, Indian Statistical Institute , Kolkata  
Email: bbc@isical.ac.in
- [3] **Dr. Gaurav Sharma**, Fellow IEEE  
Professor, University of Rochester, USA  
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- [4] **Dr. Shishir Kumar**, Senior Member IEEE  
Professor, Babasaheb Bhimrao Ambedkar University, Lucknow  
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- [5] **Dr. Rajat Kumar Singh**, Senior Member IEEE  
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