Dr Ganesh Kumar Sethi

Contact Number: +91- 98147-96127
Designation: Associate Professor
E-mail: ganeshsethi147@gmail.com,Bursar@modicollege.com
Designation: Associate Professor in Computer Science
Specialization: Discrete Mathematics/Image Processing
Google scholar ID: [Ganesh Kumar Sethi - Google Scholar](#)
Orchid ID

Education

- MCA (UGC-NET), MSc (Maths, CSIR-NET), PhD
- MCA (2003, Punjabi University, Patiala),
- MSc-Mathematics (2005, HP University, Shimla)
- CSIR-NET (Mathematics) 2005
- UGC-NET(Computer Science)-2012
- Ph.D. (September, 2017, Punjabi University, Patiala)
  Title of Ph. D Thesis: A Framework for Automatic Detection and Extraction of Devanagari Text from Camera Based Images.

Professional Experience:

- Department of Computer Science, M.M. Modi College, Patiala, India (03 October, 2006 to till date)
- Department of Computer Science, M.M. Modi College, Patiala, India (July-2004 to October 2006)
- Govt Bikram College of Commerce, Patiala India (August 2003 to March 2004)

Teaching Interests:

- Data Structures
- Programming in C/C++
- Discrete Mathematics
- Statistics

Research Interest:

- Digital Image Processing

Publications

1. Ganesh K Sethi, Rajesh Bawa *Text Information Extraction: in Context of Indian Languages Advanced Materials Research* Vols. 433-440 (2012), pp 5012-5019 Publisher :Trans Tech Publications, Switzerland
   doi:10.4028/www.scientific.net/AMR.433-440.5012

2. Ganesh K Sethi , Rajesh K Bawa *A Binarization Technique for Extraction of Devanagari Text from Camera Based Images* Signal & Image Processing :An International Journal (SIPIJ) Vol.5, No.2, ISSN   0976 - 710X (Online) 2229 - 3922 (print)
   https://scholar.google.com/scholar?oi=bibs&cluster=6978674935285674852&btnI=1&hl=en

3. Ganesh K Sethi, Rajesh Bawa *A review on binarization algorithms for camera based natural scene images* Proceedings of the International Conference on Advances in Computing, Communications and Informatics, 3 - 5 August 2012, Chennai, India, pp 873-878, ISBN 978-1-4503-1196-0, 2012
   https://doi.org/10.1145/2345396.2345537

4. Ganesh K Sethi, Rajesh Bawa *AKS: A Database for Detection and Extraction of Devanagari Text in Camera Based Images.* International Journal of Computer Trends and Technology (IJCTT) Volume 39, Issue 1, pp. 32-39, 2016. (Thomson Reuters End Notes) ISSN: 2231-2803.
   https://scholar.google.com/scholar?oi=bibs&cluster=2811742724848134104&btnI=1&hl=en

5. **E-Governance: A Study of Services in Punjab** Cyber-Pollution: Problem and Remedy-2014 ISBN number 978-81-909755-9-9

6. Ganesh Kumar Sethi , "A Framework for Detection and Extraction of Devanagari Text from Camera Based Images with 2-Stage Classification" International Journal of Engineering Sciences, Volume-27, Special Issue, 2018, pp 237-252.

7. Navneet Kaur, Rajesh Kumar Bawa, Ganesh Kumar Sethi "**A Technique for Skew Correction and Text Localization in Natural Scene Images International Journal of Research in Electronics AND Computer Engineering"** IJRECE VOL. 6 ISSUE 3 (JULY - SEPTEMBER 2018)**)** ISSN (Online): 2348-2281 ISSN (Print): 2393-9028, pp 2224-2229
   http://nebula.wsimg.com/745ba95f7f1befdceb6d9f8bd8506fad?AccessKeyId=DFB1BA3CED7E7997D5B1&disposition=0&alloworigin=1

8. Sethi Ganesh Kumar, Sharma Harmohan and Komal, "A Study of Personality Traits from Handwriting using Digital Image Processing", Research Review International Journal of Multidisciplinary, Volume-03, Issue-12, 2018, pp 1498-1502.

9. Sethi Ganesh Kumar and Komal, "Analysis of Fingernail Images for Detection and Diagnosis of Diseases", Research Review International Journal of Multidisciplinary, Volume-04, Issue-03, 2019, pp 3006-3010.

10. Ganesh Kumar Sethi, Harmohan Sharma Writer Identification System: Facts & Fundamentals Proceedings International Conference on Digital Transformation: A Cognitive Learning Towards Artificial Intelligence *RGNUL Patiala* 06-08 September, 2019 ISBN 978-93-83043-28-6, Satyam Publishers

11. Gurwinder Singh, Ganesh Kumar Sethi *Automatic Land Cover Classification Using Learning Techniques with Dynamic Features* International Journal of Innovative Technology and Exploring Engineering (IJITEE) 499 ISSN: 2278-3075, Volume-8 Issue-8S3, June 2019 (Scopus Indexed)
https://www.ijitee.org/wp-content/uploads/papers/v8i8s3/H11140688S319.pdf

12. Komal , Ganesh Kumar Sethi , and Rajesh Kumar Bawa *Feature Based Qualitative Classification of Rice Varieties: A Review* Volume 64, Issue 2, 2020 Journal of Scientific Research Institute of Science, Banaras Hindu University, Varanasi, India, pp 305-312

13. Komal, G. K. Sethi, N. Ahmad, M. B. Rehman, H. M. E. Ibrahim Dafallaa and M. Rashid, *"Use of Artificial Intelligence in Healthcare Systems: State-of-the-Art Survey*," 2021 2nd International Conference on Intelligent Engineering and Management (ICIEM), 2021, pp. 243-248, doi: 10.1109/ICIEM51511.2021.9445391.

14. Singh G., Sethi G.K., Singh S. (2021) Performance Analysis of Deep Learning Classification for Agriculture Applications Using Sentinel-2 Data. In: Luhach A.K., Jat D.S., Bin Ghazali K.H., Gao XZ., Lingras P. (eds) Advanced Informatics for Computing Research. ICAICR 2020. Communications in Computer and Information Science, vol 1393. Springer, Singapore. https://doi.org/10.1007/978-981-16-3660-8_19

15. Singh, G., Sethi, G.K. & Singh, S. Survey on Machine Learning and Deep Learning Techniques for Agriculture Land. SN COMPUT. SCI. 2, 487 (2021). https://doi.org/10.1007/s42979-021-00929-6

16. Komal, Sethi, G. K., & Bawa, R. K. (2022). A Hybrid Approach of Preprocessing and Segmentation Techniques in Automatic Rice Variety Identification System. Journal of Scientific Research, 14(1), 205–213. https://doi.org/10.3329/jsr.v14i1.54811

17. Singh, G., Singh, S., Sethi, G.K. *et al.* Detection and mapping of agriculture seasonal variations with deep learning–based change detection using Sentinel-2 data. *Arab J Geosci* **15**, 825 (2022). https://doi.org/10.1007/s12517-022-10105-6

18. ਕੋਮਲ, ਗਣੇਸ਼ ਕੁਮਾਰ ਸੇਠੀ, ਰਾਜੇਸ਼ ਕੁਮਾਰ ਬਾਵਾ ,"ਆਰਟੀਫੀਸ਼ੀਅਲ ਇੰਟੈਲੀਜੈਂਸ ਤਕਨੀਕਾਂ ਦੀ ਵਰਤੋਂਕਰਦੇਹੋਏ ਆਟੋਮੈਟਟਕ ਰਾਈਸ ਵੰਨ-ਸੁਵੰਨਤਾ ਪਛਾਣ ਪਰਣਾਲੀ ਦਾ ਇੱਕ ਪਰੋਟੋਟਾਈਪ" , ਆਭਰੂਅਕਤੂਬਰ-ਦਸੰਬਰ 2022, pp 77-79

19. कोमल, गणेश कुमार सेठी "कृत्रिम तंत्रिका नेटवर्क का उपयोग करके स्वचलित अनाज पतियों की पहचान प्रणाली का एक प्रोटोटाइप ", विज्ञान प्रकाश, जनवरी 2023, pp 19-26.

Publications other than journal articles (Book, Chapters published in Books)

S. No.	Title with Authors	Type of Book & Authorship	Publisher & ISSN/ISBN No.	Whether sole author of co- author
1	Swachh Survekshan 2019:Indicators & Role of Citizens	**National/ YUVA**	978-93-82376-82-8	**Sole**
2	Performance Analysis of Deep Learning Classification for Agriculture Applications Using Sentinel-2 Data	International Advanced Informatics for Computing Research. ICAICR 2020. Communications in Computer and Information Science, Vol 1393.	Springer, ISSN 1865-0929 Scopus Indexed	**Co-author**
3	Publication Misconduct Chapter in Edited Book "Research and Publication Ethics"	**National**	DPS Publishing House, New Delhi, 2021 9789390157211	**Co-author**
4	**Use of Artificial Intelligence in Healthcare Systems: State-of-the-Art Survey**	International, June 2021	IEEE **ISBN:**978-1-6654-1450-0	**Co-author**
5	Emergence of Current Digital Image Processing Applications in Agricultural Domain	Emerging Technologies: AI, IoT and CPS for Science & Technology Applications 2021 International	**ISSN 1613-0073** **Scopus Indexed**	**Co-author**

Book/Book chapter

1. Discrete Mathematics Sharma Publications/2008 ISBN 93-81261-61-X
2. Computer Oriented Numerical and Statistical Methods Sharma Publications/2009 and (Fully Revised 2020) ISBN
3. C Programming and Data Structures Sharma Publications /2018 ISBN 978-93-5181-235-7
4. Programming Fundamentals Using C Sharma Publications /2018 ISBN 978-93-5181-234-0
5. Mathematical Foundations of Computer Science Sharma Publications/2015
6. YUVA
7. Publication Misconduct Chapter in Edited Book "Research and Publication Ethics" by DPS Publishing House, New Delhi, 2021, ISBN 9789390157211

Conference / Seminars
A) Paper presented:

1. *Text Information Extraction: in Context of Indian Languages* International Conference ICCRC-2011 at New Delhi March 21-23, 2011
2. *E-Governance: A Study of Services in Punjab* National Conference on Cyber Pollution-Problem and Remedy, Khalsa College, Patiala 4 April, 2014
3. *e-Governance in Higher Education-In Context of National Scholarship Schemes in India* International Conference, MM Modi College, Patiala November 7-8, 2014
4. *Globalization and its Impact on Indian Culture   International Seminar on Impact of Globalisation on Values State College of Education, Patiala 24 Feb, 2016*
5. *"E-waste: A Looming Threat"* International *RGNUL March 5, 2016*
6. *Automatic Land Cover Classification Using Learning Techniques with Dynamic Features* International Conference on Recent Trends in Computer Applications and Information Technology *MM University Ambala* 20-04-2019
7. *Writer Identification System: Facts & Fundamentals* International Conference on Digital Transformation: A Cognitive Learning Towards Artificial Intelligence *RGNUL Patiala* 06-08 September, 2019
8. *Advancements in Optical Character Recognition for Gurmukhi Script* Fifth International Conference on Image Information Processing (ICIIP 2019) *JAYPEE University of IT, Waknaghat, Solan HP* 15-17 November, 2019
https://scholar.google.com/scholar?oi=bibs&cluster=6495391442445149438&btnI=1&hl=en

9. *State-of-the-art in automatic rice quality grading system* International Conference on intelligent communication and computational research Punjab Institute of Technology, Rajpura January 25, 2020

10. *Digital Image Processing for Smart Farming* UGC Sponsored 3rd National Conference on Innovations in Bioscience and Technology (NCIBT 2020) March 7, 2020, MM Modi College, Patiala.

11. *Classification of Wheat Leaf Diseases using Deep Convolutional Networks : State-of-the-Art Survey* AIE-2021 International Conference on AI at the Edge: The Next Generation on Data Processing, 15-16 April, 2021, DTU, Delhi

12. *A Prototype of Automatic Grain Leaves Identification System using Artificial Neural Network* International Conference on Innovative and Research on Marine Electrical and Electronics Engineering (ICIRMEEE 2021)

13. *Classification of Rice Varieties using convolutional neural network* in MESIICON-2022

Research
Ph.D Completed 02
PhD Ongoing   04
1. **Komal "IDENTIFICATION OF RICE GRAIN VARIETY USING MACHINE LEARNING APPROACH" (Degree Awarded in 2023)**
2. **Gurwinder Singh - AUTOMATIC SATELLITE IMAGE CLASSIFICATION FOR AGRICULTURE LAND COVER USING DEEP LEARNING APPROACH (Degree Awarded in 2023)**
3. **Taruna - DETECTION OF WHEAT LEAF DISEASES USING DEEP LEARNING (Ongoing, Regd on August 13, 2018 in DCS, Punjabi University, Patiala)**
4. **Sukhdeep Kaur - Development of a Writer Identification System For Handwritten Gurmukhi Script (Ongoing Regd in July 11, 2019 in DCS, Punjabi University, Patiala)**
5. **Rajinder Kaur**

Workshops and training courses
FDPs/Workshps/Orientations & Refreshers:

1. Attended one week International e-symposium on Online Modes of Teaching & Learning : A Global Prospective 25th to 29th May, 2020 by Guru Kashi University, Bhatinda

2. Attended 7 Days International FDP on Innovative Methods for Virtual Classroom Teaching: A Road to MOOCs 10th to 16th July, 2020 by Punjab Commerce & Management Association

3. Participated in Online AICTE Recognized FDP on Neural Network and CNN by NITTTR Chandigarh from 14th to 18th April, 2020

4. Attended Workshop on NDLI Cub held at State College of Education on 13.12.2019 sponsored by MHRD.

5. One week Faculty Development Programme on "Emerging Issues and Challenges in Higher Education" from July 17-22, 2019 at MM Modi College, Patiala.

6. Attended UGC Sponsored 7 Day FDP at Multani Mal Modi College, Patiala on "Contemporary Issues in Higher Education" from July 20-26, 2018.

7. Attended three day FDP on "Effective Use of ICT in Transforming Traditional Learning and Development of MOOCs" from 1st June to 3rd June 2018 organized by Department of Computer Science and Engineering, Thapar Institute of Engineering & Technology, Patiala.

8. Attended UGC Sponsored Refresher Course at Punjabi University, Patiala from 10-30 May, 2017 on theme Emerging Issues in Information Technology.

9. Attended UGC Sponsored 7 Day FDP at Multani Mal Modi College, Patiala on "Academic Writing: From Critical Appreciation to Publication" from Jan 9-16, 2017

10. Attended One Day Workshop on "IPR Awareness and Plagiarism Detection Tool for Indian languages" on May 13, 2016 at Punjabi Univ Patiala

11. Attended 7 Day Workshop on " Enhancing Legal Efficacy Among Teachers" from 15-21 March, 2016 at Punjabi University, Patiala

12. Attended Student Leadership Programme organised by RGNIYD on Feb 23, 2016 at MM Modi College, Patiala.

13. Attended UGC Sponsored 7 Day FDP at Multani Mal Modi College, Patiala from from July 9-15, 2015.

14. Attended One Day Workshop on "Programming the Mind" at Govt. Bikram College of Commerce, Patiala on 23.11.2014.

15. Attended UGC sponsored 15 Days FDP at Multani Mal Modi College, Patiala from July 1-July 15, 2014.

16. Attended UGC sponsored One week National Workshop on "Digital Image Processing using MATLAB" at PUP Patiala from Nov. 29-Dec 5, 2012.

17. Attended Short Term Training cum awareness Programme on NMEICT at Dr. BR AMBEDKAR NIT Jalandhar on 19 October 2012

18. Attended Refresher Course in IT from 19 December, 2011 to 07 January 2012 at ASC, University of Rajasthan, Jaipur in A grade.

19. Attended Orientation Course from 15 June, 2011 to 12 July 2011 at ASC, Punjabi University, Patiala in A grade.

20. Attended National Seminar on Emerging Challenges in Service Sector in India on October 20, 2010 at DDE, Pbi University, Patiala.
21. Attended National Seminar on Role of ICT in Distance Education on August 9, 2010 at DDE, Punjabi University, Patiala.
22. Attended National Seminar on Recent Advance and Future Trends in DIP on March 30, 2010 at DCS, Pbi University, Patiala.
23. Attended National Conference on Recent Advance and Future Trends in IT on April 9-10 2009 at DCS, Pbi University, Patiala.
24. Attended Seminar on AIDS Awareness at Multani Mal Modi College, Patiala on 20.02.2008.

NSS Camps:

1. Participated in NSS camp on theme Swachh Bharat SwasthBharat at Multani Mal Modi Colege, Patiala from Jan 01-Jan 07, 2016.
2. Participated in NSS camp on theme Health, Public Sanitation & Public Hygiene at Multani Mal Modi Colege, Patiala from Dec 21-27, 2014.
3. Donated Blood 6 times.