

Name: Dr. Sukhdev Singh

Designation: Associate Professor Specialization:

Computer Science

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Education:

Master of Computer Science (2005, Dept. of Computer Science, Punjabi University Patiala).

M.Phil. (Computer Science) (2009, Maharishi Markandeshwar University, Mullana).

Ph.D. (Computer Science) (2016, Department of Computer Science, Punjabi University Patiala)

Title of Ph.D. Thesis: “A System for Gurmukhi Script Text Extraction from Natural Scene Images”

Professional experience:

- Working as Associate Professor in Department of Computer Science, M.M. Modi College, Patiala, India (24th July 2021 to till date).
- Working as Assistant Professor in Department of Computer Science, M.M. Modi College, Patiala, India (23rd July 2007 to 24th July 2021).
- Worked as Assistant Professor in PMN college Rajpura (8th Oct.2006 to 22 July 2007).
- Worked as Web Developer at eYork Technologies, Chandigarh (2nd Nov. 2005 to 31st Aug. Oct. 2006).

Teaching Interests:

- C- Language
- C++ Language
- Computer Graphics
- Data structure
- Web Technology

Research Interest: Digital Image Processing and Data analysis

Publications:

Research papers published in reputed International/National journals

- i. “Despeckling of Renal Calculi in Ultrasound Images”, International Research Journal of Engineering and Technology (IRJET), Vol. 2(5), pp. 532-536, Aug., 2015. ([Download](#))
- ii. Sukhdev Singh, Monika Pathak, Gagandeep Kaur, “Web Services: An e-Government Perspective”, International Journal of Computer Applications (IJCA), (ISBN: 978-81-924893-0-8), pp. 29-31. Aug., 2015 ([Download](#))
- iii. Sukhdev Singh, Monika Pathak, Harsh Sadawarti, “A Technique to Suppress Speckle in Ultrasound Images using Nonlocal Mean and Cellular Automata”, Indian Journal of Science and Technology, Vol. 9(13), pp. 1-6, April, 2016. ([Download](#)).
- iv. Sukhdev Singh, Monika Pathak, Harsh Sadawarti, “Features extraction and classification for detection of kidney stone region in ultrasound images” in International Journal of Multidisciplinary Research and Development, Online ISSN: 2349-4182 Print ISSN: 2349-5979, Vol. 3(5), pp. 81-83, May 2016. ([Download](#))
- v. Sukhdev Singh, Monika Pathak, “Implications and emerging trends in digital image” International Journal of Computer Science and Information Technologies, Vol. 5 (2), 2014, 2132-2135 ([Download](#)).
- vi. Sukhdev Singh, Monika Pathak, Harsh Sadawarti, “A Comparative Study of Binarization of Ultrasound Images”, International Journal of Computer Applications (IJCA), ISSN: 0975-8887, pp. 17-19, 2016. ([Download](#)).
- vii. Sukhdev Singh, Monika Pathak “Segmentation of Region of Interest in Ultrasound Images Using Fuzzy Logic Clustering Method”, International Journal of Advanced Science and Technology (IJAST), ISSN: 2005-4238 Print (ISSN: 2207-6360 Online), Vol. 28, No. 19, (2019), pp. 821 – 826, Dec., 2019. ([Download](#))
- viii. "A Study of Geometric Features Extraction from Plant Leafs." Journal of Information and Computational Science: 9, no.7, 2019: pp.101-109. (Download)
- ix. Chaitanya Singh, Sukhdev Singh, Databases, Classifiers for Speech Emotion Recognition: A Review, International Journal of Advanced Science and Technology Vol.

- 27, No. 1, (2019), pp. 69-76.([Download](#))
- x. Sukhdev Singh, Monika Pathak, Segmentation of Region of Interest in Ultrasound Images Using Fuzzy Logic Clustering Method, International Journal of Advanced Science and Technology Vol. 28, No. 19, (2019), pp. 821 – 826. ([Download](#))
 - xi. Priya Pinder, Sukhdev Singh, "Review on Plant Recognition System Based on Leaf Features". Journal of Emerging Technologies and Innovative Research (JETIR): 6, no.3, 2019: pp.352-361([Download](#)).
 - xii. Priya Pinder, Sukhdev Singh, "Review of machine learning herbal plant recognition system" In Proceedings of the International Conference on Innovative Computing & Communications (ICICC), 2020.([Download](#))
 - xiii. Priya Pinder, Sukhdev Singh, "Analysis of Multiple Classifiers for Herbal Plant Recognition" In 2021 6th International Conference on Signal Processing, Computing and Control (ISPCC), IEEE, 2021, pp. 78-83. ([Download](#))
 - xiv. Priya Pinder, Sukhdev Singh, "Random Forest Classifier used for Modelling and Classification of Herbal Plants considering different features using Machine Learning." In 2021 3rd International Conference on Mobile Radio Communications &5G Networks (MRCN--2021) proceedings in Lecture Notes in Networks and Systems([Download](#))
 - xv. Priya Pinder, Sukhdev Singh, "Classification of Herbal Plant and Comparative Analysis of SVM and KNN Classifier Models on the Leaf Features using Machine Learning." In Soft Computing for Intelligent Systems, Springer, Singapore, 2021, pp. 227-239([Download](#)).
 - xvi. Priya Pinder, Sukhdev Singh, "Leaf Recognition System Based on Supervised Machine Learning Techniques" accepted in IEEE DELCON 2022 conference will be held on 11-14th February 2022 (Download).
 - xvii. Singla, C., Singh, S. "PEMO: A New Validated Dataset for Punjabi Speech Emotion Detection" International Journal on Recent and Innovation Trends in Computing and Communication, 2022, 10(10), pp. 52–58. ([Download](#))

1. Sukhdev Singh, Monika Pathak, published book entitled “Fundamentals of Database Management System”, published by national level publisher Bookman Publications, ISBN: 978-81-931674-9-6.
2. Sukhdev Singh, published book entitled, “Object Oriented Programming using C++” published by Twenty first Century Publications. ISBN: 978-81-89463-24-3.

Conference / Seminars

A) Paper Presented and Published:

1. Dharam Veer Sharma, Sukhdev Singh, “An Analysis of Image Binarization Techniques for Natural Scene Images” in proceedings of, IJCA Proceedings on International Conference on Recent Advances and Future Trends in Information Technology (iRAFIT 2012).
2. Sukhdev Singh ,Monika Pathak,Gagandeep Kaur, “Web Services: An e-Government Perspective” at 3rd International Conference on “Advancements in Engineering and Technology” held at Bhai Gurdas Institute of Engineering & Technology, Sangrur dated March 20-21, 2015.
3. Sukhdev Singh,Monika Pathak, Harsh Sadawarti ,“A Comparative Study of Binarisation of Ultrasound Images” at 4th International Conference on “Advancements in Engineering and Technology” held at Bhai Gurdas Institute of Engineering & Technology, Sangrur (Sponsored by Indian Society for Technical Education (ISTE)) dated March, 2016.
4. Gurvir Kaur, Sukhdev Singh, Ajit Kumar ,“Urdu ligature recognition techniques-A review “at International Conference on Intelligent Communication and Computational Techniques dated 26 march 2017.
5. Monika Pathak, Gagandeep Kaur, Sukhdev Singh, “A study on ICT based skill deployment programs in India”, National level conference on advances in engineering technology, management and science, ASRA College of engineering and technology dated 23rd April 2016.
6. Sukhdev Singh , Monika Pathak, “Cellular Automata Based System to Suppress Speckle Noise to Detect Kidney Stone in Ultrasound Images” in International Conference on “International Multi-Disciplinary Academic Research Conference (IMARC-2019)” held

at CT University, Ludhiana dated September 6-7, 2019.

7. Priyapinder, Sukhdev Singh , Monika Pathak, “Review on automatic detection of kidney stone abnormalities in Ultrasound images”, International conference on intelligent communication and computational research (ICICCR-2020), Punjab institute of technology Rajpura dated 25th January 2020.
8. Chaitanya Singla, Sukhdev Singh, Monika Pathak, “Automatic audio-based emotion recognition system: Scope and challenges”, International conference on intelligent communication and computational research (ICICCR-2020), Punjab institute of technology Rajpura dated 25th January 2020.
9. Dharam Veer Sharma, Sukhdev Singh ,“An Analysis of Image Binarization Techniques for Natural Scene Images” in proceedings of, IJCA Proceedings on International Conference on Recent Advances and Future Trends in Information Technology (iRAFIT 2012).
10. Dharam Veer Sharma, Sukhdev Singh “Gurmukhi text detection and localization in natural scene images”, International Journal of Advanced Research in Computer Science and Software Engineering, vol. 5, no. 12, pp. 426-428, 2015.
11. Sukhdev Singh , Dharmaveer Sharma, "Binarization of national science images" at International Conference on Advances in Computers, Communication, and Electronic Engineering dated 16-18 march ISBN (Online): 978-93-82288-63-3, Publisher: University of Kashmir, Hazratbal, Srinagar, page No.155-160, J&K, India, Publication Date: 16 March, 2015.
12. Monika Pathak, Harsh Sadawarti and Sukhdev Singh,“A Comparative Study of Binarization of Ultrasound Images”, International Journal of Computer Applications (IJCA), ISSN: 0975-8887, pp. 17-19, 2016.
13. Singla, C., Singh, S., Emotion Recognition Using Text and Speech Through Machine Learning, Lecture Notes in Electrical Engineering, 2023, 1056 LNEE, pp. 321–330.
[Source](#)
14. Singla, C., Singh, S. Punjabi Speech Emotion Recognition using Prosodic, Spectral and Wavelet Features International Conference on Emerging Trends in Engineering and Technology, ICETET, 2022, 2022-April [Source](#)
15. Kaur, P.P., Singh, S., Sandhu, I.S., Sandhanwalia, D.S., Leaf Recognition System Based on Supervised Machine Learning Techniques 2022 IEEE Delhi Section Conference,

DELCON 2022. [Source](#).

16. Kaur, P.P., Singh, S., Random Forest Classifier Used for Modelling and Classification of Herbal Plants Considering Different Features Using Machine Learning, Lecture Notes in Networks and Systems This link is disabled., 2022, 339, pp. 83–94. [Source](#).
17. Kaur, P.P., Singh, S. Analysis of Multiple Classifiers for Herbal Plant Recognition Proceedings of IEEE International Conference on Signal Processing, Computing and Control, 2021, 2021-October, pp. 78–83. [Source](#).
18. Singh, S., Pathak, M., Automatic System for Text Detection and Localization Using Cellular Automata, Lecture Notes in Electrical Engineering This link is disabled., 2021, 701, pp. 445–453. [Source](#)
- 19.

B) Conference Attended:

1. Sukhdev Singh, “Study of statistical based object detection methods in images” presented in One day National Seminar on Usage and prospects of mathematics conducted by Multani Mal Modi College Patiala dated March 07, 2019.
2. Sukhdev Singh, “The Role of Computers to Organizing Different Biological Datasets” in Bioinformatics in 7th National Conference on “Recent Advances in Chemical, Biological and Environmental Sciences (RACES-2015) conducted by M.M. Modi College dated January 30-31,2015.
3. Sukhdev Singh ,“Medical Waste Risks and Impact on Health and the Environment” in 8th National Conference on “Recent Advances in Chemical, Biological and Environmental Sciences (RACES-2015) conducted by Feb, 2016.
4. Monika Pathak, Sukhdev Singh, “Digitalisation of record keeping system in health care”, National conference on advances in sciences and technology, RIMT- institute of engineering technology, Mandi dated 3-4 march 2016, Gobindgarh.
5. Sukhdev Singh , “Advertising industry: Past, Present and Future”, ARSD College Dhaula Kuan, New Delhi dated 9th-May-2020. (Online)
6. Sukhdev Singh , “Leaders as Communicator Department of Computer Science” Bharati College University of Delhi dated 20th-May-2020. (Online)
7. Sukhdev Singh , “5G Technology and its application Department of electronics and communication engineering” Sri Vasavi Institute of Engineering and Technology

Nandamuru dated 28th-May-2020. (Online)

8. Sukhdev Singh , “How to Write a Good Research Project Proposal” Department of Electronics and Communication Engineering Punjabi University, Patiala, Punjab dated 31st- May-2020. (Online)

PH.D. STUDENTS:

1. Priya Pinder Kaur, “Herbal Plant Recognition system based on leaf features using machine learning” registered in Dept. of Computer Science, Punjabi University Patiala dated 30.08.2018.
2. Chaitanya Singla, “Emotion recognition system for Punjabi spoken Dialogues using deep learning” registered in Dept. of Computer Science, Punjabi University Patiala dated date of registration 25.04.2019.

WORKSHOPS AND TRAINING COURSES:

1. Attended 3 Days training program on Snetclass communication lab software from (11.03.2015 to 13.03.2015) held at Multani Mal Modi College, Patiala.
2. Attended 7 days Faculty Development Programme on “Training the Trainers on Life Skills” held at Multani Mal Modi College, Patiala from (6th July, 2015 to 12th July, 2015) organized by Rajiv Gandhi National Institute of Youth Development, Regional Centre, Chandigarh (Institute of National Importance by the Act of Parliament No. 35/2012).
3. Attended 8 days Faculty Development Programme on “Academic Writing from Critical Appreciation to Publication” held at Multani Mal Modi College, Patiala from (9th January, 2017 to 16th January, 2017) organized by Internal quality Assurance Cell (IQAC) sponsored by University Grant Commission (UGC).
4. Attended 7 days Faculty Development Programme on “Contemporary Issues in Higher Education” held at Multani Mal Modi College, Patiala from (20th July, 2018 to 26th July, 2018) organized by internal quality Assurance Cell (IQAC).
5. Attended 6 days Faculty Development Programme on “Emerging Issues & Challenges in Higher Education” held at Multani Mal Modi College, Patiala from (17th July, 2019 to 22nd July 2018) organized by internal quality Assurance Cell

(IQAC).

6. Attended 3 days Workshop on “Android App Development & Artificial Intelligence” held at Multani Mal Modi College, Patiala from (13th November, 2019 to 15th November, 2019) organized by Department of Computer Science & Placement Cell.
7. Attended FDP on R Programming organized by CT University Ludhiana Punjab from 27April to 01May 2020. (Online).
8. Attended FDP on Skill enhancement programme on Python for Data Science organized by Fork Coding School from 11-17 May 2020. (Online)
9. Attended Faculty development programme on Machine Learning and Its Applications organized by Electronics and ICT academy Indian institute of technology Roorkee from 4-12 May 2020. (Online)
10. Attended One Week Online Faculty on Machine Learning and Applications organized by Department of Computer Science and Technology, SIRT(Sagar Group of Institutions) Bhopal from 18-23 May, 2020. (Online)

MEMBERSHIP

- Life Time Membership of “Indian Society for Technical Education (ISTE)”, Member ID: LM 97585 since 2014.
- Member of “i-Explore International Research Journal Consortium”
- Member of “IAENG (International Association of Engineers)”.

(Dr. Sukhdev Singh)