Dr. NAGENDRA PRATAP SINGH

"Research is to see what everyone else has seen and to think what no one else has thought"

Dr. B R Ambedkar National Institute of Technology,Jalandhar

Mail ID · Mobile · LinkedIn · Vidwan ·

Scopus ID · ORCID ID · Google Scholar

SUMMARY

Currently I am working as an Assistant Professor at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar (Punjab), India. I received Master Degree in Computer Science and Engineering from Motilal Nehru National Institute of Technology, Prayagraj (Allahabad), India and Doctoral Degree in Computer Science and Engineering from Indian Institute of Technology (Banaras Hindu University), Varanasi, India. I had published 4-Book Chapters and more than 45 Research Articles in SCI and Scopus Indexed High Impact Journals and Conferences. I am presently reviewer of many renowned National/International Journals and Conferences.

I had successfully supervised 02 Ph.D. (Awarded), more than 17 PG and 10 UG students. Currently supervising 03 Ph.D., more than 04 PG and 08 UG research scholars at NIT Jalandhar. My Research Interest is Image processing (Medical Image Processing), Computer Vision, Machine Learning/Deep Learning and Pattern Recognition.

EDUCATION QUALIFICATION

- **Ph.D.** in Computer Science and Engineering, 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi, India.

- **M.Tech.** Computer Science and Engineering, 2009, Motilal Nehru National Institute of Technology, Prayagraj (Allahabad), India.

- **B.Tech.** Computer Science and Engineering, 2002, Institute of Engineering and Technology, Kanpur, India.

TEACHING EXPERIENCE

- Dr. B R Ambedkar National Institute of Technology, Jalandhar (Punjab) (6^{th} January 2023- till date) As an Assistant professor-I (CFTI).

- National Institute of Technology, Hamirpur-177005, Himachal Pradesh.(20^{th} November 2018- 5^{th} January 2023) As an Assistant professor-II (CFTI).

- Madan Mohan Malaviya University of Technology, Gorakhpur-273010, Uttar Pradesh.(2016-2018) As a Permanent Assistant professor.(State University)

- Naraina College of Engineering and Technology, Kanpur-208020, Uttar Pradesh.(2011-2013)
- Ambalika Institute of Management and Technology, Lucknow-226020, Uttar Pradesh.(2008-2011)
- Rama Institute of Engineering and Technology, Kanpur-209217, Uttar Pradesh (2007-2008)
- Azad Institute of Engineering and Technology, Lucknow-226008, Uttar Pradesh (2005-2007)
- Jawahar Lal Nehru Polytechnic, Mahmudabad Sitapur-261203, Uttar Pradesh (2003-2005)

RESEARCH INTEREST

- Digital Image Processing
- Medical Image Processing
- Computer Vision
- Machine Leraning
- Deep learning
- Natural Languge Processing

PUBLISHED DATA SETS

- STRAMPN-HISTOPATHOLOGY IMAGES FOR OVARIAN CANCER PREDICTION (DOI: 10.21227/w7w8-p960) `Link:Ovarian Data Set`
- N-BGP (NONINVASIVE BLOOD GROUP PREDICTION DATA SET) (DOI: 10.21227/81ps-bx03) `Link:N-BGP Data Set`
- OFFLINE HANDWRITTEN TEXT IMAGES FOR GENDER PREDICTION (DOI: 10.21227/gart-a309) `Link:Handwritten Text Data Set`

List of Submitted Project

- dgjfgdvhjkv

PUBLICATIONS

JOURNALS

- Singh, S., Maurya, M. K., **Singh, N. P.** (2023). STRAMPN: Histopathological image dataset for ovarian cancer detection incorporating AI-based methods. Multimedia Tools and Applications, 1-22.
- Kumar, K. S., **Singh, N. P.** (2023). Segmentation of retinal blood vessel using generalized extreme value probability distribution function (pdf)-based matched filter approach. Pattern Analysis and Applications, 26(1), 307-332.

- Verma, A., Rahi, R., **Singh, N. P.** (2023). Novel ALBP and OLBP features for gender prediction from offline handwriting. International Journal of Information Technology, 15(3), 1453-1464.
- Saroj, S. K., Kumar, R., **Singh, N. P.** (2023). Retinal blood vessels segmentation using Wald PDF and MSMO operator. Computer Methods in Biomechanics and Biomedical Engineering: Imaging Visualization, 11(2), 215-232.
- Kumar, K. S., **Singh, N. P.** (2023). Analysis of retinal blood vessel segmentation techniques: a systematic survey. Multimedia Tools and Applications, 82(5), 7679-7733.
- Kumar, K. S., **Singh, N. P.** (2022). Segmentation of retinal blood vessel structure using Birnbaum-Saunders (fatigue life) probability distribution function. International Journal of Medical Engineering and Informatics, 14(6), 484-500.
- Kumar, K. S., **Singh, N. P.** (2022). Retinal blood vessel segmentation using a generalized gamma probability distribution function (pdf) of matched filtered. International Journal of Fuzzy System Applications (IJFSA), 11(2), 1-16.
- Kumar, R., **Singh, N. P.** (2022). Retinal Blood Vessels Segmentation using Fréchet PDF and MSMO Method. ELCVIA Electronic Letters on Computer Vision and Image Analysis, 21(1), 27-46.
- Saroj, S. K., Kumar, R., **Singh, N. P.** (2020). Frechet PDF based matched filter approach for retinal blood vessels segmentation. Computer methods and programs in biomedicine, 194, 105490.
- **Singh, N. P.**, Singh, V. P. (2020). Efficient Segmentation and Registration of Retinal Image Using Gumble Probability Distribution and BRISK Feature. Traitement du Signal, 37(5), 855-864.
- Saroj, S. K., Ratna, V., Kumar, R., **Singh, N. P.** (2020). Efficient Kernel based Matched Filter Approach for Segmentation of Retinal Blood Vessels. arXiv preprint arXiv:2012.03601.
- Mahato, D. P., Sandhu, J. K., **Singh, N. P.**, Kaushal, V. (2020). On scheduling transaction in grid computing using cuckoo search-ant colony optimization considering load. Cluster Computing, 23, 1483-1504.
- **Singh, N. P.**, Srivastava, R. (2019). Extraction of retinal blood vessels by using an extended matched filter based on second derivative of Gaussian. Proceedings of the national academy of sciences, India section a: physical sciences, 89, 269-277.
- **Singh, N. P.**, Srivastava, R. (2016). Retinal blood vessels segmentation by using Gumbel probability distribution function based matched filter. Computer methods and programs in bio medicine, 129, 40-50.
- **Singh, N. P.**, Mishra, R., Tiwari, S., Misra, A. K. (2013). An Approach to Filter the Test Data for Killing Multiple Mutants in Different Locations. International Journal of Computer Theory and Engineering, 5(2), 253.
- Mishra, S., Yaduvanshi, R., Rai, A. K., **Singh, N. P.** (2012). An ID-Based Signature Scheme from Bilinear Pairing Based on Ex-K-Plus Problem. Advanced Materials Research, 403, 929-934.
- **Singh, N. P.**, Mishra, R., Yadav, R. R. (2011). Analytical review of test redundancy detection techniques. International Journal of Computer Applications, 27(1), 30-33.
- Debbarma, M. K., **Singh, N. P.**, Shrivastava, A. K., Mishra, R. (2011, September). Analysis of Software Complexity Measures for Regression Testing. In Proceedings of International Conference on Advances in Computer Engineering (pp. 88-92).

CONFERENCES

- Singh, S., Verma, A., Guleria, V., Yadav, S., **Singh, N. P.** (2023, June). Deep Learning-Based Networks to Detect Leaf Disease in Maize and Corn. In 2023 International Conference on IoT, Communication and Automation Technology (ICICAT) (pp. 1-6). IEEE.
- Ankush, Singh, S., **Singh, N. P.**, Rathee, P. (2023, January). Skin Cancer Detection Using Deep Learning Approach. In International Conference on Smart Computing and Communication (pp. 521-531). Singapore: Springer Nature Singapore.
- Kapoor, K., Singh, S., **Singh, N. P.**, Priyanka. (2023, January). Bell-Pepper Leaf Bacterial Spot Detection Using AlexNet and VGG-16. In International Conference on Smart Computing and Communication (pp. 507-519). Singapore: Springer Nature Singapore.
- Verma, P. K., **Singh, N. P.** (2022). Retinal image enhancement using hybrid approach. In Machine Intelligence and Smart Systems: Proceedings of MISS 2021 (pp. 515-524). Singapore: Springer Nature Singapore.
- Kumar, K., Verma, P. K., **Singh, N. P.** (2021, December). A Comparatively Study of Machine Learning Approaches to Predict Service of Disease Haemophilia A. In 2021 First International Conference on Advances in Computing and Future Communication Technologies (ICACFCT) (pp. 58-61). IEEE.
- Bhatia, R., **Singh, N. P.** (2021, December). Gender Recognition by Voice Using Machine Learning. In International Conference on Advanced Network Technologies and Intelligent Computing (pp. 307-318). Cham: Springer International Publishing.
- Susheel Kumar, K., Jatoth, C. S., **Singh, N. P.** (2021). Segmentation of retinal blood vessel using an algorithm-based gamma distribution of matched filter. In Proceedings of Integrated Intelligence Enable Networks and Computing: IIENC 2020 (pp. 73-81). Springer Singapore.
- Dhiman, V., Kumar, U., Narla, A., Kumar, A., Sharma, V., **Singh, N. P.** (2021). An election system using blockchain. In Smart Computing (pp. 48-55). CRC Press.
- Dhenkawat, R., Saini, S., **Singh, N. P.** (2022). Semantic Analysis of Chest X-Ray using an Attention-based CNN.
- Maurya, P., **Singh, N. P.** (2020). Mushroom classification using feature-based machine learning approach. In Proceedings of 3rd International Conference on Computer Vision and Image Processing: CVIP 2018, Volume 1 (pp. 197-206). Springer Singapore.
- Verma, P. K., **Singh, N. P.**, Yadav, D. (2020). Image enhancement: a review. Ambient Communications and Computer Systems: RACCCS 2019, 347-355.
- Yadav, P., **Singh, N. P.** (2019). Classification of normal and abnormal retinal images by using feature-based machine learning approach. In Recent Trends in Communication, Computing, and Electronics: Select Proceedings of IC3E 2018 (pp. 387-396). Springer Singapore.
- Singh, S., **Singh, N. P.** (2019). Machine learning-based classification of good and rotten apple. In Recent Trends in Communication, Computing, and Electronics: Select Proceedings of IC3E 2018 (pp. 377-386). Springer Singapore.
- Mahato, D. P., Sandhu, J. K., **Singh, N. P.**, Dutta, K. (2020). Dependability analysis for on-demand computing based transaction processing system. In Advanced Information Networking and Applications: Proceedings of the 33rd International Conference on Advanced Information Networking and Applications (AINA-2019) 33 (pp. 188-199). Springer International Publishing.

- **Singh, N. P.**, Nagahma, T., Yadav, P., Yadav, D. (2018, November). Feature based leaf identification. In 2018 5th IEEE Uttar Pradesh section international conference on electrical, electronics and computer engineering (UPCON) (pp. 1-7). IEEE.
- Shahi, P., Yadav, S., Singh, N., **Singh, N. P.** (2018, November). Melanoma skin cancer detection using various classifiers. In 2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON) (pp. 1-5). IEEE.
- **Singh, N. P.**, Srivastava, R. (2017). Weibull probability distribution function-based matched filter approach for retinal blood vessels segmentation. In Advances in Computational Intelligence: Proceedings of International Conference on Computational Intelligence 2015 (pp. 427-437). Springer Singapore.
- **Singh, N. P.**, Kumar, R., Srivastava, R. (2015, May). Local entropy thresholding based fast retinal vessels segmentation by modifying matched filter. In International Conference on Computing, Communication Automation (pp. 1166-1170). IEEE.
- **Singh, N. P.**, Mishra, R., Debbarma, M. K., Sachan, S. (2011, April). The review: Lifecycle of object-oriented software testing. In 2011 3rd international conference on electronics computer technology (Vol. 3, pp. 52-56). IEEE.
- Kumar Saroj, S., Oshiro, S., Yadav, P., **Pratap Singh, N.** (2019). An efficient approach for plant leaves identification based on texture features. International Journal of Computational Intelligence IoT, 2(3).
- Kumar Saroj, S., Nigam, N., **Pratap Singh, N.** (2018). Performance Evaluation of Breast Cancer Classifiers using Different Tools. Performance Evaluation of Breast Cancer Classifiers using Different Tools.

BOOKS AND BOOK CHAPTER

- Dhenkawat, R., Saini, S., Kumar, S., **Singh, N. P.** (2022). Attention-Based Deep Learning Approach for Semantic Analysis of Chest X-Ray Images Modality. In Role of Data-Intensive Distributed Computing Systems in Designing Data Solutions (pp. 241-263). Cham: Springer International Publishing.
- Yadhav, P. S. K., Kumar, K. S., **Singh, N. P.** (2022). Left Ventricle Volume Analysis in Cardiac MRI Images Using Convolutional Neural Networks. In Role of Data-Intensive Distributed Computing Systems in Designing Data Solutions (pp. 295-320). Cham: Springer International Publishing.

PG AND UG THESIS

PG THESIS

- "Facial Recognition based Automatic Image Captioning"(Computer Science and Engineering, NIT Hamirpur (H.P.)
- Heart Diseases Prediction Using Deep Learning (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Brain Tumor Segmentation Using Deep Learning (Computer Science and Engineering, NIT Hamirpur (H.P.)
- A Study of Neural Network Techniques for Covid-19 Face Mask Detection (Computer Science and Engineering, NIT Hamirpur (H.P.)

- Ranking of e-commerce Product Reviews using Keyword Extraction (Computer Science and Engineering, NIT Hamirpur (H.P.)
- English-Hindi Machine Translation using Attention Mechanism (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Detection of COVID by using CT Scans (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Gender Recognition by Voice using Machine Learning (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Left Ventricle Volume Analysis using CNN in Cardic MRI Images (Computer Science and Engineering, NIT Hamirpur (H.P.)
- A Hybrid frame work for gender detection using Skin Patches (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Segmenting Retinal Blood Vessels Using Birnbaum-Saunders PDF (Computer Science and Engineering, NIT Hamirpur (H.P.)
- A Morphological Operator Based Image Contrast Enhancement Technique (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Gender Prediction from Offline Handwriting using Enhanced LBP Technique (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Automated Early Detection of Retinal Disease by using Feature Extration and Machine Learning (Computer Science and Engineering, MMMUT, Gorakhpur (U.P.)
- City Summary (Master of Computer Application (MCA)/ MMMUT, Gorakhpur (U.P.)
- APEX TGI App (Master of Computer Application (MCA)/ MMMUT, Gorakhpur (U.P.)

UG THESIS

- Brain Tumor Classification using Deep Learning Techniques (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Brain Tumor Detection using Texture based LBP feature on MRI Image using feature Selection Technique (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Air Quality Index (AQI) Prediction (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Breast Cancer Detection using Convolutional Neural Network (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Bazaar Analysis-Stock Recommendation (Computer Science and Engineering, NIT Hamirpur (H.P.)
- Election System using Blockchain (Computer Science and Engineering, NIT Hamirpur (H.P.)
- E-COP System (Information Technology NCET, Kanpur
- Study and Implement of various Filter for Image Enhancement using Matlab (Computer Science and Engineering, MMM University of Technology, Gorakhpur, (U.P.)

PATENT

- **AAM-Physical Fitness:** ANALYSIS OF PHYSICAL FITNESS AND ACTIVITY LEVEL USING MACHINE LEARNING, DEEP LEARNING PROGRAMMING
  Patent number 2020101986
  Australia Patents Act 1990
  Inventors Vipin Jain, Rohin Garg, Divakar Yadav, B. Venkatesh, Nagendra Pratap Singh, Prabhakar Vattikuti, Arun Kumar Yadav, Arvind Singh, Jagdeep Singh, S. B. Chordiya

OUTREACH ACTIVITY

- **Poster Presentation** Indo-German Frontiers of Engineering, Potsdam, Germany
- **Mentered/Supervised two students of University of Ryukyus, Japan** Computer Science and Engineering Department, MMMUT, Gorakhpur (U.P.),
- **Poster Presentation** Computer Science and Engineering, IIT (BHU), Varanasi
- **Poster Presentation** Computer Science and Engineering, IIT (BHU), Varanasi
- **Paper Presentation** Information Extraction using Text Miner in National Seminar on Advance Computing and Communications (Invertis Institute of Engineering and Technology, Bareilly (U.P.)
- **Paper Presentation** Analysis of Unit Testing using Extended Colored Petri Net in International Conference on Technology and Information Systems organized by Department of Computer Science and IT, DAV College, Amritsar (University Grants Commission (UGC)
- **Paper Presentation**Local entropy thresholding based fast retinal vessels segmentation by modifying matched filter in International Conference on Computing, Communication and Automation (ICCCA 2015) organized by School of Computing Science and Engineering, Galgotias University (IEEE UP Section)
- **Session Chair** International Conference on Emerging Trends in Communication, Computing and Electronics (IC3E-2018) University of Allahabad and JK Institute of Applied Physics and Technology, Allahabad
- **Session Chair** 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON-2018)Computer Science and Engineering, MMMUT,Gorakhpur (U.P.) IEEE UP Section, and Council of Science and Technology UP, EDS, AICTE and CETPA etc.
- **Session Chair**3rd International Conference on Advanced Computing and Software Engineering (ICACSE-2021) Computer Science and Engineering, Kamla Nehru Institute of Technology, Sultanpur, (U.P.), India (TEQIP-III)
- **Session Chair** 5th IAPR International Conference on Computer Vision and Image Procession (CVIP-2020) Indian Institute of Information Technology (IIIT), Allahabad (U.P.), India. IEEE Signal Processing Society UP Section Chapter, DRDO, ISRO and Mathworks.
- **Session Chair** Springer International Conference on Machine Intelligence and Smart Systems (MISS-2021) "IPS College of Technology and Management, Shivpuri Link Road, Gwalior, Madhya Pradesh,India " Planting Future, Springer and Artificial Computational Research Society.

EXPERT TALK AND WORKSHOP

- Medical Image Processing and it's Applications Using Matlab in Short-term training program organized by Department of ECE, Mahatma Gandhi Institute of Technology, Hyderabad, Telangana. Department of ECE, Mahatma Gandhi Institute of Technology, Hyderabad, Telangana.

- Image Processing and Applications Webinar organized by the Department of CSE, BBD University, Lucknow (U.P.) Department of CSE, BBD University, Lucknow (U.P.)
- Hands-on: Medical Image Processing using MATLAB Short-term training program organized by Department of ECE, Mahatma Gandhi Institute of Technology, Hyderabad, Telangana Department of ECE, Mahatma Gandhi Institute of Technology, Hyderabad, Telangana.
- Digital Image Processing Faculty Development Program organized by Department of Information Technology Rajkiya Engineering College, Azamgarh, (U.P.) Department of Information Technology Rajkiya Engineering College, Azamgarh, (U.P.)
- Texture Feature based Retinal Disease Prediction Faculty Development Program on "Research Trends in AI and Mobile System (RTAIMS-2019)" organized by Department of CSE, NIT Hamirpur (H.P.)Department of CSE, NIT Hamirpur (H.P.)
- LaTex Module-1,2 3 (Three Talks) Three days workshop on "LaTex for Research rganized by Centre of Development for Technical Education, MMM University of Technology, Gorakhpur (U.P.) Centre of Development for Technical Education, MMM University of Technology, Gorakhpur (U.P.)
- Practical Aspects of Machine Learning One-week Short Term Course onrganized by Department of Computer Science and Engineering, Kamla Nehru Institute Technology, Sultanpur, UP. Department of Computer Science and Engineering, Kamla Nehru Institute Technology, Sultanpur, UP.

PERSONAL DETAILS

- **Father's Name** : Krishna Pal Singh
- **Sex** : Male
- **Status** : Married
- **Nationality** : Indian

Declaration

- I hereby declare that the above mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above mentioned.