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- **Areas of Specialization:** Bio-computing, Bioinformatics, Soft Computing, DNA Computing.
- **Number of M.Tech Students guided:** 15
- **Research Papers published:**
 1. **Neelofar Sohi** and Amardeep Singh (2020). A Comprehensive Review and Performance Evaluation of Sequence Alignment Algorithms for DNA Sequences. *International Journal of Advanced Science and Technology*, 29 (3): 11251-11265.
 2. **Neelofar Sohi** and Amardeep Singh (2021). Bio-computing Approaches and Tools for Identification of Single Nucleotide Polymorphisms: A Comprehensive Review. *International Journal of Computer Aided Engineering and Technology (Inderscience Publishers)*, 15(4): 427-456.
 3. Veerpal Kaur and **Neelofar Sohi** (2018). Detection of Fish from Underwater Images and Video:A Comparative Study. *International Journal of Computer Engineering & Technology (IJCET)*, 9(4): 57-62.
 4. Amandeep Kaur and **Neelofar Sohi** (2018). A Novel Method for AutomaticDetection of Brain Tumor from MR Image. *International Journal of Computer Sciences and Engineering*, 6(7): 668-673.
 5. Amandeep Kaur and **Neelofar Sohi** (2018). A Systematic Review and Performance Evaluation of Algorithms for Tumor Detection from MR Brain Images. *International Journal of Research in Electronics and Computer Engineering*, 6(2): 1354-1361.
 6. **Neelofar Sohi** and Amardeep Singh (2017). A Review on Biocomputing Approaches and Tools for Identification of Single Nucleotide Polymorphisms. *International Journal of Computer Engineering & Technology (IJCET)*, 8(5): 54-66.
 7. Harpreet Kaur and **Neelofar Sohi** (2017). A Study for Applications of Histogram in Image Enhancement. *The International Journal of Engineering and Science (IJES)*, 6(6): 59-63.
 8. Harpreet Kaur and **Neelofar Sohi** (2017). A Novel Enhancement Method for Colored Rock Art Archaeological Images. *International Journal of Advanced Research in Computer Science*, 8(7): 1164-1167.
 9. Jasleen Kaur and **Neelofar Sohi** (2017). Review on Enhancement of Underwater Images”, *International Journal of Computer Engineering and Applications*, 11(8): 158-168.
 10. Jasleen Kaur and **Neelofar Sohi** (2017). Enhancement of Underwater Images: A Review”, published in *Analysis of Underwater Image Segmentation using Contrast Enhancement*, Lambert Publishers.

11. Yadvir Kaur and **Neelofar Sohi** (2017). Comparison of Different Sequence Alignment Methods- A Survey. *International Journal of Advanced Research in Computer Science*, 8(5): 2307-2311.
12. Satveer Singh and **Neelofar Sohi** (2015). Review of Various Techniques for Orientation Measurement of Arch Fingerprint and Matching. *International Journal of Engineering Technology, Management and Applied Sciences*, 3(6): 219-223.
13. Harinder Kaur and **Neelofar Sohi** (2015). Review: Segmentation Algorithms for Cloud Detection. *International Journal of Engineering Sciences & Research Technology*, 4(6): 760-767.
14. **Neelofar Sohi**, Lakhwinder Kaur and Savita Gupta (2012). Performance Improvement of Fuzzy C-mean Algorithm for Tumor Extraction in MR Brain Images”, *International Journal of Computer Applications*, 59(5): 40-43.
15. Navneet Kaur and **Neelofar Sohi** (2020). Ensemble Classification Method for Orange Fruit Disease Detection. *Journal of Xidian University*, 14(12): 38-45.
16. Sandeep Kaur, Navneet Kaur and **Neelofar Sohi** (2020). PSO based path identification for zigBee matrix type topologies for IoT-based lighting automation. *Journal of Xidian University*, 14(12): 443-450.
17. **Neelofar Sohi** and Amardeep Singh (2020). A Comprehensive Review and Performance Evaluation of Sequence Alignment Algorithms for DNA Sequences. *International Journal of Advanced Science and Technology*, 29(3): 11251 – 11265.

International/ National Conference Presentations:

1. **Neelofar Sohi** and Amardeep Singh. Study & Implementation of Single Nucleotide Polymorphism Identification Tools. 2nd International Conference on Emerging Trends in Science, Engineering and Management (ICETSEM-2021), GM Institute of Technology, Davangere, Karnataka, India, 15th -16th July, 2021.
2. Navneet Kaur and **Neelofar Sohi**. A Comprehensive Review on Automated Fruit Classification and Grading Algorithms. International Conference on AI and Machine Learning (ICAML 2020), Department of Computer Science & Engineering, Punjabi University, Patiala, Punjab, 21st-22nd May, 2020.
3. **Neelofar Sohi** and Amardeep Singh. Single Nucleotide Polymorphisms: Identification and Association with Breast Cancer using Biocomputing Approach. IEEE International Conference on Intelligent computing and Control Systems, Vaigai College of Engineering, Madurai, Tamilnadu, India, 14th-15th June, 2018.
4. Amandeep Kaur and **Neelofar Sohi**. A Systematic Review and Performance Evaluation of Algorithms for Tumor Detection from MR Brain Images. 3rd International Conference on New Frontiers of Engineering, Science, Management and Humanities (ICNFESMH-2018), Mahratta Chamber Of Commerce Industries & Agriculture, Pune, Maharashtra, India, 17th June, 2018.
5. Harinder Kaur and **Neelofar Sohi**, “Cloud Detection: A Systematic Review and Evaluation”, ICCCCS 2016, published in book titled *Advances in Computer and*

Computational Sciences, Advances in Intelligent Systems and Computing, 554, Springer Nature Singapore Pte Ltd, 2018.

6. Yadvir Kaur and **Neelofar Sohi**. Pairwise Sequence Alignment Method Using FlowerPollination Algorithm. 4th IEEE International Conference on Signal Processing, Computing and Control (ISPCC 2k17), Solan, India, 21st-23rd September, 2017.
7. Jasleen Kaur and **Neelofar Sohi**. Performance Improvement of Enhancement Methods for Underwater Images. 2nd IEEE International Conference on Communication and Electronics Systems, Coimbatore, India, 19th -20th October, 2017.
8. Harinder Kaur and **Neelofar Sohi**. Reinforced Fast Marching Method and Two Level Thresholding Algorithm for Cloud Detection. IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI 2016), Jaipur, India, 21st-24th September, 2016.
9. Prabhjot Kaur and **Neelofar Sohi**. Image Compression: A Systematic Review and Evaluation. 1st International Conference on Recent Trends in Computing, Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab, 30th-31st August, 2016.
10. Manpreet Kaur and **Neelofar Sohi**. A novel technique for content based image retrieval using color, texture and edge features. International Conference on Communication and Electronics System (ICCES), Coimbatore, India, 21st-22nd October, 2016.
11. Deepak Sidana and **Neelofar Sohi**. A Comprehensive Review on Plant Disease Detection Using Machine Learning. 3rd International Conference on Applications of AI and Machine Learning (ICAML-2021), Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab, 2nd-3rd December, 2021.
12. **Neelofar Sohi**, Shaheena Sohi and Amardeep Singh. Pattern Matching Algorithms for Detection of Disease Causing SNPs, 26th Punjab Science Congress (PSC-2023): National Conference on "Environment, Food Security and Health with Reference to Climate Change, Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, 7th-9th February, 2023.
13. **Neelofar Sohi** and Amardeep Singh. Study & Implementation of Single Nucleotide Polymorphism Identification Tools, 2nd International Conference on Emerging Trends in Science, Engineering and Technology, GM Institute of Technology, Karnataka, India & Institute For Engineering and Research Publications, IFERP, 15th-16th July, 2021.
14. Navneet Kaur and **Neelofar Sohi**. A Comprehensive Review on Automated Fruit Classification and Grading Algorithm. International Conference on Applications of AI and Machine Learning, Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab, 21-22 May, 2020.
15. Sandeep Kaur and **Neelofar Sohi**. Zigbee Sensor Network : A Review. International Conference on Applications of AI and Machine Learning,

Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab, 21-22 May, 2020.

16. Mandeep Mehan and **Neelofar Sohi**. Review of Various Brain Tumor Detection Techniques. 3rd International Conference on Advances in Science, Engineering & Management, Lords Institute of Engineering and Technology, Hyderabad, Telangana, India, 18-19 November, 2022.
17. **Neelofar Sohi** and Amardeep Singh. Single Nucleotide Polymorphisms: Identification and Association with Diseases. 21st Punjab Science Congress, Punjab Agricultural University, Ludhiana, 7th-9th February, 2018.
18. **Neelofar Sohi** and Lakhwinder Kaur. Comparison of Various Image Segmentation Methods for Tumor Extraction in MR Brain Images. 16th Punjab Science Congress, Baba Farid University of Health Sciences at Faridkot, Punjab, India, 7th-9th February, 2013.