

To contribute to the advancement and success of an organization by leveraging my innovative acumen and technical expertise in civil engineering. In the Ph.D. work, Maloth Naresh focuses on developing and applying machine learning algorithms for structural health monitoring of steel frames. The study employs advanced data-driven techniques to identify, predict, and assess structural health under various conditions. By integrating machine learning models with structural health data, the research aims to enhance the detection of anomalies, predict potential failures, and optimize maintenance schedules.

 Ph.D. Title

Machine Learning-Based Health Monitoring of Joints in Steel Frame Structures

 Publications

SCI/SCIE/Scopus Journals

- Naresh, M.**, Kumar, V., Pal, J., Sikdar, S., Banerjee, S., & Banerji, P. (2024). A comprehensive review on health monitoring of joints in steel structures. *Smart Materials and Structures*, 33 073004, 7(33). [DOI 10.1088/1361-665X/ad5504](https://doi.org/10.1088/1361-665X/ad5504).
- Naresh, M.**, Sikdar, S., & Pal, J. (2023). Vibration data-driven machine learning architecture for structural health monitoring of steel frame structures. *Strain*, 59(5), e12439. <https://doi.org/10.1111/str.12439>.
- Naresh, M.**, Jadhav, A. B., & Patil, Y. S. (2025). A combined CNN-LSTM-based technique for joint damage detection in steel frame structures. *Asian Journal of Civil Engineering*, 1-10. <https://doi.org/10.1007/s42107-025-01315-w>.
- Naresh, M.**, Ramesh, M., & Jadhav, A. B. (2025). Optimized SVM-based model for health monitoring of joints in a multi-story 3D steel frame structure. *Asian Journal of Civil Engineering*, 1-10. <https://doi.org/10.1007/s42107-025-01293-z>.
- Naresh, M.**, Ramesh, M., Kumar, V., & Pal, J., Venkanna, J., Jadhav, A. B. (2025). Comparative study of machine learning algorithms for health monitoring of benchmark buildings using multi-domain features. *Asian Journal of Civil Engineering*, <https://doi.org/10.1007/s42107-025-01426-4>.
- Naresh, M.**, Kumar, V., & Pal, J. (2024). A convolutional neural network-based technique for health monitoring of connections of a multi-story 3D steel frame structure. *Multiscale and Multidisciplinary Modeling, Experiments and Design*, 7(5), 4947-4963. <https://doi.org/10.1007/s41939-024-00424-4>.
- Naresh, M.**, Kumar, V., & Pal, J. (2024). A convolutional neural network-based architecture for health monitoring of joint damages in a steel plane frame structure under temperature variability. *Asian Journal of Civil Engineering*, 25(2), 2077-2089. <https://doi.org/10.1007/s42107-023-00895-9>.
- Naresh, M.**, Kumar, V., & Pal, J. (2024). A machine learning approach for health monitoring of a steel frame structure using statistical features of vibration data. *Asian Journal of Civil Engineering*, 25(1), 39-49. <https://doi.org/10.1007/s42107-023-00755-6>.
- Palsara, C., Kumar, V., Pal, J., & **Naresh, M.** (2024). Structural health monitoring of ASCE benchmark building using machine learning algorithms. *Asian Journal of Civil Engineering*, 25(1), 303-316. <https://doi.org/10.1007/s42107-023-00776-1>.
- Naresh, M.**, Maloth Ramesh, Vimal Kumar, Joy Pal, Ashish B. Jadhav, Amruta D. Ware, Pranoti O. Shirole, Susmita A. Patil, Sudhakar S. Yadav, and Abhijeet A. Hosurkar. "Deep learning-based structural health monitoring of an ASCE benchmark building using simulated data." *Asian Journal of Civil Engineering* (2025): 1-13. <https://doi.org/10.1007/s42107-025-01462-0>.



Dr. Maloth Naresh

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(district), Telangana, India,
507210.

 Education

Ph.D in Structural Engineering
NIT Hamirpur.
Year of awarded: 2024.
9 (CGPI).

Post Graduation in Structural Engineering
Sree Dattha Institute of Engineering and
Science Hyderabad.
JNTU Hyderabad, Telangana.
Year of pass: 2019.
8.18 (CGPA).

Graduation: B. Tech in Civil Engineering
Aurora's Technological and Research Institute
Hyderabad.
JNTU Hyderabad, Telangana.
Year of Pass: 2014.
Percentage: 69.64.

Intermediate
Sri Vivekananda Junior College Vijayawada.
Board of Intermediate Education, AP.
Year of pass: 2010.
Percentage: 88.20.

School of Secondary Education
APTWAHS Yellandu.
Board of Secondary Education, AP.
Year of pass: 2008.
Percentage: 86.66.

 Technical Skills

- Programming Languages:** MATLAB Coding.
- Word:** Document formatting, report writing, referencing, and collaboration tools.
- Excel:** Data analysis, pivot tables, advanced formulas, data visualization
- AutoCAD.**
- Ansys Software.**

11. Manikanta, P., Sujatha, T., Ajay, C. H., **Naresh, M.**, & Kumar, R. V. (2025). Optimized machine learning technique for health monitoring of an ASCE benchmark building using simulated data. *Asian Journal of Civil Engineering*, 1-18. <https://doi.org/10.1007/s42107-025-01590-7>.

12. Khair UI Faisal Wani¹, Abhishek Sharma., Virajan Verma., K. Nallasivam., Karan Singh., **Maloth Naresh** (2026).. Modal analysis of jointed concrete pavement systems on two-parameter elastic foundations by utilizing finite element approach. *Innov. Infrastruct. Solut.* 11, 109. <https://doi.org/10.1007/s41062-026-02498-0>.

Book/Book Chapter/Conference

1. **Naresh, M.**, Sikdar, S., & Pal, J. (2021, March). A convolutional neural network-based framework for health monitoring of a welded joint steel frame structure. In *International Conference on Advances in Structural Mechanics and Applications* (pp. 251-262). Cham: *Springer International Publishing*. https://doi.org/10.1007/978-3-031-05509-6_21.
2. Co-Author of the textbook *Foundation Engineering*, Alpha International Publication (AIP), First Edition, 2025, ISBN: 978-93-5762-781-8.



Paper presentation in Conferences

1. **"A convolutional neural network based framework for health monitoring of a welded joint steel frame structure"**. *Advances in Structural Mechanics and Applications*, 6th- 8th October 2021, Organized by the Department of Civil Engineering NIT Silchar.
2. **"Bag of Visual Words based Framework for the Health Monitoring of Bolted Joint Steel Plane Frame Structure"**. 4th Structural Integrity Conference and Exhibition, 14th-16th 2022, organized by the Department of Mechanical and Aerospace Engineering IIT Hyderabad.
3. **"Vibration Data-based Health Monitoring of Joints in a 3D Steel Frame Structure Using ML Algorithm"**. 4th International Conference on Modelling Simulation and Optimization (CoMSO-2024), held during November 16-18, 2024, at NIT Silchar, Assam, India."
4. **"Integrating Optimization Method with SVM for Health Monitoring of Joints in a Steel Frame Structure"**. 4th International Conference on Modelling Simulation and Optimization (CoMSO-2024), held during November 16-18, 2024, at NIT Silchar, Assam, India.
5. **"A critical review of ML algorithms for compressive strength prediction in geopolymers concrete"** *Green AI Nexus 2025: International conference on AI for environment, energy, and earth science* held on 25th & 26th April, held at SITCOE Yadrav.



Achievements/Awards/Fellowships/Recognition

- Qualified GATE-2015 in Civil Engineering.
- HRD scholarship awarded by the Government of India for Doctoral Studies from January 2020 to May 2024.
- Recognized by *Strain Journal* (Wiley Publication) as a top-cited paper of 2023 for the article entitled "Vibration Data-Driven Machine Learning Architecture for Structural Health Monitoring of Steel Frame Structures."



Experience

Currently working as an Assistant Professor in the Department of Civil Engineering, Sharad Institute of Technology College of Engineering Yadrav, Ichalkaranji, Kolhapur, Maharashtra-416121.

- 16-01-2025 to 02-07-2025: Assistant Professor in the Department of Civil Engineering, Sharad Institute of Technology College of Engineering Yadrav.
- 03-07-2025 to till date: Head of Department (HOD), Department of Civil Engineering, Sharad Institute of Technology College of Engineering Yadrav.



FDP Organized

1. Organized and served as **Convener** for a Faculty Development Programme (FDP) on **"Next-Gen AI Tools for Multidisciplinary Research"** at Sharad Institute of Technology College of Engineering, from 19–23 January 2026.



FDP/e-STC/Workshop Attended

1. Participated in a one-week national-level faculty development programme (FDP) on **"Artificial Intelligence in Multidisciplinary Research"**, organized by Xavier Institute for Research and Development, from 15–21 December 2025.
2. Successfully completed AICTE–ATAL Faculty Development Programme on **"Industry–Academia Synergy in Disaster Management and Resilient Infrastructure for Advancing Sustainable Development"**, conducted at Dr. Ashok Gujar Technical Institute's Dr. Daulatrao Aher College of Engineering, from 22–27 December 2025.

3. Five-day Workshop on “**MATLAB Applications in Civil Engineering,**” 4th-8th August 2023, Organized by the Department of Civil Engineering, NIT Hamirpur.
4. Five-day Workshop on “**Applications of ANSYS in Engineering,**” 24th-28th July 2023, Organized by the Department of Civil Engineering, NIT Hamirpur.
5. Five-day Workshop on “**Finite Element Analysis with ANSYS and MATLAB,**” 3rd-7th January 2022, Organized by the Department of Mechanical Engineering, NIT Hamirpur.
6. Five-day Workshop on “**Recent Advances in Geotechnical Engineering,**” 1st-5th March 2021, Organized by the Department of Civil Engineering, NIT Hamirpur.
7. Five-day Workshop on “**Mathematical and Statistical Methods for Machine Learning,**” 7th-11th November 2022, Organized by the Department of Mathematics and Scientific Computing, NIT Hamirpur.



Journal Reviewer

- Served as a peer **reviewer** for reputed international journals published by Springer Nature, including **Scientific Reports, Discover Civil Engineering, International Journal of Computational Intelligence Systems, Journal of Nondestructive Evaluation,** and **Signal, Image and Video Processing,** contributing to the review of multiple research manuscripts during 2025–2026.



Invitation as a reviewer for the International conferences

1. Served as a **reviewer** for the IEEE International Conference on Emerging Engineering Technologies and Applications (IC-EETA'25), held during 06–08 November 2025, contributing to the peer-review process of research manuscripts.
2. Served as a **reviewer** for the International Conference on Multidisciplinary Innovations for Global Sustainability and Development (MIGS-2025), held on 17–18 April 2025 at G H Rasoni University, Amravati, Maharashtra.
3. Invitation as a **reviewer**: Proceedings of the International Conference on Ground Engineering & Sustainable Infrastructure (ICGESI-2026): Innovations in Sustainable Materials and Infrastructure Vol 2. Organized by NIT Hamirpur, Himachal Pradesh.



References

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Department of Mechanical Engineering.
NIT Andhra Pradesh
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Personnel Details

Father's and Mother's Name: Maloth Deepla and Mangi; **DOB and Place:** 10-05-1992, Pulluru. **Marital status:** Unmarried;
Languages known: Telugu, English, Hindi, Banjara.

Declaration

I hereby declare that the above-mentioned information is true, complete, and correct to the best of my knowledge.

(Maloth Naresh)