

Harhal Nejkar

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📍 Department of Mechanical Engineering, Sharad Institute of Technology College of Engineering, Yadrav, Ichalkaranji, India

📅 DoB: 20/05/1990

EDUCATION

National Institute of Technology Karnataka, Surathkal <i>Ph.D. (Pursuing)</i> Result: 8.5 CGPA (First Class with Distinction)	08/2021 – Present Mangalore, India
Sinhgad College of Engineering, Vadgaon (BK) <i>M.E.</i> Result: 7.620 CGPA (First Class with Distinction)	07/2013 – 12/2015 Pune, India
Walchand Institute of Technology, Solapur <i>B.E.</i> Result: 70.33% (First Class with Distinction)	06/2008 – 06/2012 Solapur, India
Balvantrao Zele Jr. College, Jaysingpur <i>HSC</i> Result: 79.00%	03/2007
Balvantrao Zele High school, Jaysingpur <i>SSC</i> Result: 86.26%	03/2005

RSEARCH INTERESTS

Additive Manufacturing of Continuous Fiber Reinforced Composite Materials |
Process Optimization using Artificial Neural Network |
Computational Fluid Dynamics of Heating Block of 3D printers

PROFESSIONAL EXPERIENCE

National Institute of Technology Karnataka, Surathkal <i>PhD Research Scholar</i> Designed and developed a fabrication setup for continuous fiber reinforced composite filament. CFD Simulation of Heating block for investigation of quality of melt impregnation into the dry fiber bundle. Developed ANN based multi-objective optimization model.	08/2021 – Present Mangalore, India
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SITCoE	06/2016 – Present
<i>Assistant Professor</i>	Ichalkaranji,
Completed 4 week workshop on ICT education held by IIT Bombay from 8th May to 30th June 2016.	Kolhapur, India
Guided institute team for National Level competition organised by SAEINDIA named as TIFAN in 2017 and 2019.	
Worked as NBA Criteria 4 Institute head and various committee heads and members	
Worked as Central Training Officer	
TKIET	07/2015 – 06/2016
<i>Assistant Professor</i>	Warananagar,
Conducted 30Hr ANSYS APDL training for students	Kolhapur, India

M.E. DISSERTATION

Static and dynamic analysis of Epicyclic gear train.

An experimental static stress analysis on planetary gear set and load sharing analysis of the pinion pins and validated it by simulation in ANSYS. Then a dynamic analysis study of the gear train is carried out using in ANSYS and Hypermesh simulation .

PUBLICATIONS

Journal Paper

Nejkar H, Swamy KM. Attention-enhanced neural network-based metaheuristic optimization frameworks for enhancing tensile strength in 3D printing. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. 2025;0(0). doi:[10.1177/09544089251365590](https://doi.org/10.1177/09544089251365590)

Conference Paper

Nejkar, Harshal and Swamy, K. B. M. Theoretical Estimation of Elastic Characteristics of Natural Reinforced Composite- A Comparative Analysis. *IOP Conference Series: Materials Science and Engineering*. 2022. 1248 (1). 012083. doi: [10.1088/1757-899X/1248/1/012083](https://doi.org/10.1088/1757-899X/1248/1/012083)

Patents

SPRING-MASS SYSTEM FOR PIEZOELECTRIC ENERGY PRODUCTION.

Design No. : 429058-001

Date : 02/09/2024

CURVED EIGHT-BEAM PIEZOELECTRIC OSCILLATOR FOR VIBRATIONAL ENERGY HARVESTING ACROSS DIFFERENT MODES

Design No. : 414707-001

Date : 24/04/2024

PIEZOELECTRIC SPRING-MASS SYSTEM FOR VIBRATIONAL ENERGY HARVESTING AT VARIOUS MODE SHAPES

Design No. : 414710-001

Date : 24/04/2024

TECHNICAL SKILLS

- ANSYS Fluent
- Solidworks
- EasyEDA PCB designing
- MATLAB
- Fusion360

REFERENCES

Dr. Mruthyunjaya Swamy K. B., Assistant Professor,
National Institute of Technology Karnataka, Surathkal
swamy_kbm@nitk.edu.in, (+91)948-300-6499

Prof. Subhaschandra Kattimani, Professor and Head of Dept.,
National Institute of Technology Karnataka, Surathkal
subhaskatti@nitk.edu.in, +91 8242473661

DECLARATION

I hereby declare that all the information provided above is true to its best of my knowledge and belief

Harshal Sukumar Nejkar
NITK Surathkal, 23/01/2026