# AKHIL S L

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## Objective

Research scholar working on numerical methods for nonlocal solids. Experience in Mesh free methods, MATLAB and scientific computing for solving nonlocal elasticity problems. Aiming to contribute to projects related to advancements of simulations/ numerical methods related to mechanical/ structural engineering.

## Education

- **Indian Institute of Space Science and Technology** *Aug 2021 - present*
  *PhD* Thiruvananthapuram, India
  - PhD in aerospace engineering (ongoing), Research area: Numerical methods for nonlocal elasticity.
- **Government Engineering College** *June 2019 - June 2023*
  *M-Tech in Machine Design* Thiruvananthapuram, India
  - GPA: 9.7/10
- **Government Engineering College** *Aug 2013 - Nov 2017*
  *B-Tech* Idukki, India
  - GPA: 7.6/10

## Projects

- **Research: Solving nonlocal elasticity problems using meshfree method.** *Aug 2021 - present*
  *Tools: MATLAB, The solution to nonlocal beam bending problems is developed in matlab.* [🌐]
  - Study of effect of selectable parameters in meshfree method on nonlocal problems.
  - Static beam bending problem is solved using Eringen's nonlocal elasticity.
  - Revealed the extend of nondimensional length scale.
- **M-Tech: Reduced order modelling of systems with localized nonlinearity** *March 2021*
  *Tools: ANSYS and MATLAB for modeling and analysis.*
  - Solved free vibration of an idealized spring mass system using harmonic balance method and Craig Bampton model reduction technique.

## Publications

C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

**[J.1]** Akhil S L, Krishna I R Praveen, Aswathy M. (2025). **Effect of non-dimensional length scale in element free Galerkin method for classical and strain driven nonlocal elasto-static problems**. *Computers & Structures*, Vol. 312, May 2025, pp. 1-11. DOI: https://doi.org/10.1016/j.compstruc.2025.107724

**[J.2]** S L Akhil, I R Praveen Krishna , (2025). **Element-Free Galerkin Method for Elastostatic Analysis of Nonlocal Stress-Driven Bernoulli–Euler Beams**. *ASCE Engineering Mechanics*, Vol. 151, 10, pp. 1-12. DOI: https://doi.org/10.1061/JENMDT.EMENG-8428

**[C.1]** Akhil S L, et al. (2024). **Element free Galerkin method(EFGM) for static analysis of nonlocal elastic solids using differential and integral strain driven models**. In $4^th$ International conference on Mechanics of Advanced Materials and Structures, MEchanics of advanced materials and structures. 11-13 Dec 2024, Bengaluru.

**[C.2]** [forthcoming] Akhil S L, et al. (2025). **Element free Galerkin method for Timoshenko nano beams using strain driven nonlocal model**. In $4^th$ International Mechanical Engineering Congress & Exposition India. 10-13 Sept 2025, Hyderabad.

## Skills

- **Programming Languages:** MATLAB, C++, JavaScript
- **Web Technologies:** HTML5, CSS3
- **Other software tools:** MATLAB, Latex, Git, Linux

## Additional Information

**Languages:** English (Fluent), Malayalam (Native), Hindi (Basic), Tamil(Basic)
**Interests:** Classical mechanics,Scientific computing, Online chess