Meera Syam

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Personal Profile

A motivated and detail-oriented Civil Engineering graduate with a strong foundation in structural engineering and design. Proficient in industry-standard design and analysis software, including AutoCAD, ABAQUS, SolidWorks, and STAAD.Pro. Skilled in applying engineering principles to develop safe, efficient, and innovative structural solutions. Possess a strong academic background combined with hands-on experience in design tools, eager to contribute to challenging structural projects and grow within a dynamic engineering team.

Experience

PhD Research *July 2026*

Research on steel-concrete composite structures

- Designed and conducted experimental testing on steel–concrete composite beams, focusing on structural behaviour and performance under load. Completed a comprehensive parametric study through numerical analysis using ABAQUS to investigate the influence of key variables on beam behaviour. Proposed an innovative connection method for the internal support region of a continuous steel–concrete composite bridge, aimed at enhancing structural integrity and load distribution. The work demonstrates a strong integration of theoretical knowledge, experimental skills, and advanced numerical modelling in structural engineering applications.

Publications

- Meera, & Arul Jayachandran, S. (2023, December). Behaviour of Steel-Concrete Composite Beams Under Hogging Bending. In Structural Engineering Convention (pp. 555-567). Singapore: Springer Nature Singapore.
- Meera, S. Arul Jayachandran, Concrete compressive strength-based SDCL connections for steel-concrete composite bridge girders. Proceedings of the 13th international conference on advances in steel-concrete composite structures (ASCCS 2024), 11 - 13 December 2024, Hong Kong, China.

Projects

Design and analysis of two-layer steel dome

- Conducted structural analysis of a double-layer dome structure as part of the B.Tech final year project using finite element software ABAQUS. Assessed performance under various loading conditions to evaluate structural efficiency and stability.

Analysis of folded plates

- Developed a custom MATLAB program to perform design and structural analysis of folded plate roofing as part of a third-year minor project. Focused on load distribution, stiffness behaviour, and structural optimization.

Structural analysis of berthing structure using STAAD-PRO

- Modelled and analysed a berthing structure using STAAD.Pro, focusing on load-bearing capacity, structural integrity, and compliance with relevant design standards.

Education

Indian Institute of Technology Madras, Chennai, India *Sept 2020-June 2026*

Integrated MS-PhD in Structural Engineering

National Institute of Technology Karnataka, Suratkal, India *July 2016-May 2020*

B.Tech in Civil Engineering

- GPA: 8.92/10.0

Achievements

- President of American Society of Civil Engineers (ASCE), NITK Student Chapter (2019).
- Selected among the top 10 percentile of students at NITK Surathkal, earning the opportunity to pursue PhD at IIT Madras under the MoU between NITK Surathkal and IIT Madras.

Skills

Technologies: ABAQUS, StaadPro, MATLAB, AutoCAD, SolidWorks, MS Office suite.

Soft Skills: Teamwork, Collaboration, Leadership, Problem Solving, Communication, Project Management, Analytical, Self-motivated, Multitasking.

Internships

Central Building Research Institute (CSIR-CBRI) Roorkee *June-July 2018*

A research internship at Council of Scientific & Industrial Research Ministry of Science & Technology, Government of India

New Mangalore Port Trust (NMPT) *April-May 2018*

Industrial internship at New Mangalore Port Trust, Government of India (Ministry of Shipping), Panambur, Mangalore – 575010, India