

Education

Master of Technology

Mechanical and Aerospace Engineering

CGPA: 9.59/10

Indian Institute of Technology Hyderabad

July 2023 – July 2025

Bachelor of Technology

Mechanical Engineering

CGPA: 7.15/10

Malaviya National Institute of Technology

July 2015 – July 2019

Senior Secondary

Major: Mathematics, Physics, Chemistry

Marks scored: 973/1000

Ascent Junior College

May 2013 – May 2015

Matriculation

GPA: 9.7/10

Bhashyam Public School

May 2012 – May 2013

Research Projects

Programmable stability in 3D printed Kirigami metamaterials

Project assistant

January 2026 – Present

IIT Hyderabad

Deformation of Curved and inclined beam under dynamic loads

Project assistant

August 2025 – December 2025

IIT Hyderabad

Instability Analysis of 3D-Printed Metamaterial Structures

MTech Thesis

January 2024 – July 2025

IIT Hyderabad

Buckling Analysis of Composite Plates

Composites Course Project

January 2024 – April 2024

IIT Hyderabad

Shock relations for Axis-symmetric bodies in a Supersonic flow

Flight Vehicle Dynamics Course Project

January 2024 – April 2024

IIT Hyderabad

Aero-thermal elasticity of Hypersonic vehicles

Introduction to Flight Course Project

August 2023 – December 2023

IIT Hyderabad

Finite Element analysis of Elliptical wing

Introduction to Finite Element methods Course Project

August 2023 – December 2023

IIT Hyderabad

Tribological Properties of Aluminium Hybrid Alloys

BTech Final Project

January 2019 – April 2019

MNIT Jaipur

Publications

D.H. Tumarada, V. Ravulapalli, G. Raju, "Effects of nonlinear viscoelasticity on the stability of 3D-printed metamaterials", International Journal of Solids and Structures, 2025.

Manuscript titled "Programmable Stability in 3D-Printed Kirigami Multistable Metamaterials via Coupled In-Plane and Out-of-Plane Instabilities" finalized; submission in preparation.

Conferences

International and National Conference on Machines and Mechanisms December 2025, Hyderabad, India

Society of Engineering Science (SES 2025)	October 2025, Atlanta, Georgia
<i>Selected for Oral Presentation – Nonlinear viscous effects on the stability of 3D-printed flexible metamaterial structures</i>	
Indian Conference on Applied Mechanics (INCAM)	July 2024, Warangal, India
<i>Oral presentaion on the deformation paths of 3D printed TPU bistable arches using Digital Image correlation</i>	
SAE NIS Student Convention	January 2017, Jaipur

Awards

Research Excellence Award	April 2026
Awarded the Research Excellence Award in the UG and PG category during the 18 th Foundation Day of the Indian Institute of Technology Hyderabad (IITH) in recognition of research contributions during the Master’s program.	

Teaching Experience

Teaching Assistant and mentorship roles	July 2023 – June 2025
<i>IIT Hyderabad</i>	<i>Kandi, Telangana, India</i>
- Mentored Bachelor’s and Master’s students in research projects, guiding experimental design, numerical simulations, and data analysis. - Instructed undergraduate students in conducting experiments for the vibrations and acoustics course-work. - Developed questions and prepared solutions for the Advanced Mathematics for Engineers course. - Assisted professors in designing experiments, assignments, and creating solutions for both undergraduate and graduate-level courses.	

Work Experience

Project Assistant	July 2025 – Present
<i>IIT Hyderabad</i>	<i>Kandi, Telangana, India</i>
Cairn Oil and Gas	July 2019 – January 2021
<i>Mechanical Maintenance Engineer</i>	<i>Barmer, Rajasthan, India</i>
BHEL-HPVP (Bharat Heavy Plate and Vessels Limited)	May 2018 – July 2018
<i>Intern</i>	<i>Visakhapatnam, Andhra Pradesh, India</i>

Technical Skills

Experimental	Material Characterization,Mechanical testing, 2D and 3D Digital Image Correlation (DIC), 3D Prototyping, Impact testing
Software	Abaqus CAE, SolidWorks, MATLAB, PolymerFem, Ansys, Python, Inventor, Hypermesh

Extracurricular

I actively pursue a healthy lifestyle through regular engagement in badminton, squash, and gym workouts. As the captain of my intra-branch badminton team, I proudly led my team to three consecutive championship victories. Furthermore, I am a potential Inter-IIT squash player and have secured wins in various intra-college tournaments. In addition to this I have actively volunteered in multiple blood, books and clothes donation camps contributing meaningfully to the society.

Languages Known

English (Proficient), Hindi (Fluent), Telugu (Proficient), German (B1 Level)