VAMSHI VARMA VITROUTHU

Vitusstraße 2 | Regensburg, Bavaria
+49 17669339550 | vamshivarmavitrouthu@gmail.com

EDUCATION

DEGGENDORF INSTITUTE OF TECNOLOGY Deggendorf, Bavaria
Master of Mechatronics and Cyberphysical Systems *Since Sep 2024*

- Relevant Courses and Projects:
  Human Machine Interfaces
  1. Brain-Computer Interface Research: Gained insights into advanced human–system communication methods relevant for assistive technologies.
  2. HMI Evaluation Methods: Learned systematic evaluation techniques for human–machine interfaces, including workload and comfort assessments.
  3. HMI Design for Intelligent Vehicles: Applied design concepts to complex, safety-critical systems, emphasizing usability and operator comfort.

  Cyber Physical Production Systems using AM (Case Study)
  1. Designed a collapsible core mechanism for injection molding, addressing manufacturability and functional performance.
  2. Utilized CAD tools to model and optimize the core geometry for production feasibility.
  3. Applied Additive Manufacturing (3D printing) to fabricate a functional prototype, enabling design validation and testing.
  4. Integrated concepts of Cyber-Physical Production Systems (CPPS) to demonstrate digital–physical connectivity in manufacturing processes.
  5. Gained hands-on experience in design for manufacturing (DfM), rapid prototyping, and functional testing workflows.

ANURAG UNIVERSITY Hyderabad, Telangana
Bachelor of Mechanical Engineering *Sep 2020 – Jun 2024*

- Relevant Courses:
  Computer-Aided Design & Manufacturing (CAD/CAM)
  1. Developed proficiency in 3D CAD modeling, geometric transformations, and solid modeling techniques (Bezier, B-Spline, CSG, B-rep).
  2. Gained hands-on experience in numerical control (NC) and CNC machine operations for manufacturing prototypes.
  3. Applied group technology and CAD-based process planning to optimize part families and production flow.

  Finite Element Method (FEM)
  1. Formulated stiffness matrices and solved mechanical and thermal problems.
  2. Modeled complex geometries using ISO parametric elements and simulated real-world loading conditions.

PROFESSIONAL EXPERIENCE

KRYSS MOTORS Hyderabad, Telangana
Design and Manufacturing *Jul 2023 – Feb 2024*

- Designed mechanical structures (EV chassis & battery housing) in SolidWorks with focus on lightweight design and manufacturability.
- Performed FEA and thermal analyses in ANSYS to evaluate structural integrity and performance under real-world conditions.
- Applied GD&T and tolerance analysis to ensure precision and reliability of critical components.
- Collaborated with cross-functional teams (mechanical, electrical, and production) to integrate design solutions into complete systems.
- Prepared technical drawings, test plans, and validation reports, strengthening documentation and structured evaluation workflows.

DLRL-DRDO Hyderabad, Telangana
CNC Intern *Jun 2023 – Jul 2023*

- Operated CNC machines (G-/M-code) and optimized toolpaths for efficient, precise manufacturing.
- Applied Design for Manufacturing and Assembly (DFMA) principles to improve component feasibility and reliability.
- Gained hands-on experience with manufacturing tolerances, jig, and fixture design, ensuring accurate prototyping and assembly.

KRYSS MOTORS Hyderabad, Telangana

Modelling and Simulation Intern *May 2023 – Jun 2023*

- Developed a trellis frame for electric bikes, focusing on lightweight design and structural integrity.
- Utilized CAD modeling and simulation tools to validate frame geometry and performance under load conditions.
- Assisted in structural optimization and prototype validation testing, ensuring functionality and safety.

PROJECTS & PUBLICATIONS

DESIGN AND ANALYSIS OF LIQUID HYDROGEN STORAGE TANK

Student Researcher

- Modeled cryogenic tank assemblies in SolidWorks, applying material selection, GD&T, and thermal stress analysis.
- Conducted FEA and insulation testing in ANSYS, contributing to a peer-reviewed publication (IJERT, 2024).

Publication: Design and Analysis of Liquid Hydrogen Storage Tank

International Journal of Engineering Research & Technology (IJERT), Vol. 13, Issue 01, Jan 2024

SKILLS & PERSONAL

Languages: Telugu (native), English (fluent), German (basic – A2 and currently learning B1 at VHS, Germany)

CAD & CAM: SolidWorks (internship & academic projects), Fusion 360, AutoCAD, Creo, SolidCAM (manufacturing workflows)

Analysis & Testing: ANSYS (FEA, thermal), GD&T, measurement validation, prototyping (3D printing)

Programming: MATLAB, Python

IT: Office Package (Word, Excel, PowerPoint)

Interests: Cooking (esp. Indian cuisine), Bike riding and restoring