

ERIC SAJU PETER

Mechanical Engineer

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PROFESSIONAL PROFILE

Mechanical Engineer with end-to-end experience across structural and mechanical design, fabrication, and production scaling for automotive and aerospace applications. Brings an interdisciplinary perspective bridging mechanical systems with embedded electronics and connected manufacturing, enabling integrated solutions from concept through shop-floor deployment. Proven in leading design-build projects to international competition results and in establishing manufacturing units with improved throughput and standardized workflows. Able to interpret requirements, validate designs, implement engineering changes, and coordinate mechanical, electrical, and software stakeholders & teams across cross-functional and global project environments.

CORE COMPETENCIES & TECHNICAL SKILLS

Design, Analysis & Manufacturing	Electro-Mechanics	TQM & Production
Solidworks, Creo, SolidEdge, Ansys FEA, XFLR, Simscale, DFMA, GD&T, BOM, Sheet Metal, CNC, Welding, Fabrication, FDM/SLA 3D Printing, Laser Cutting	Microcontrollers, Sensors, Actuators, IoT Machine Connectivity & ERP, Robotics, Cobots & Autonomous Systems, Drones, Automation & Networking	Manufacturing Setup & Scaling, Line Balancing, TQM, 6 Sigma, 7 Quality Tools, Process Standardization & Workflow Optimisation, Gantt Scheduling & Production Planning & ERP setup

PROFESSIONAL EXPERIENCE

Production Systems & Design Engineer

Fleurette: Reusable Sanitary Pads Startup | Mysuru

2025 – Present

- Designed multi-layer reusable sanitary pads in SolidWorks with selective absorption, wing-sealed barriers, and bend geometry for fit and stitchability, qualified fabrics per IS 17514:2021 (strikethrough, wicking, hydrostatic pressure) and ensured compliance with IS 5405:2025.
- Executed BIS certification and proceeding with factory licensing for commercial manufacturing.
- Standardized end-to-end production flow and built stitching jigs, integrated automated stitching to cut stitching time and labour by 40% and reduce cycle time by 25%.
- Deployed server with ERPNext hosted for attendance, payroll, and inventory and currently extending to live line-balancing and shop-floor production data.
- Currently in R&D process of ultrasonic fabric roller welding, projected to raise throughput 1.5–2.5×.

Solar Rooftop EPC Structural Engineer

SmartEco Rooftop Solar Power Systems | Mysuru

2022 – Present

- Standardized mounting structures by defining pipe dimensions, profiles, and design templates for workshop pre-fabrication, enabling faster on-site assembly and consistent installation quality reducing project duration by 35-45%.
- Developed electrical selection guidelines for cables, MCBs, and SPDs based on system load and protection requirements; trained installation crews to apply them consistently across projects.
- Conduct performance audits & plan rooftop solar layouts using drone and satellite imagery, accounting for roof geometry, optimal orientation and tilt, and shading to maximize panel placement and energy yield.

Team Manager & Structural Team Lead

AeroJC | College Aeromodelling Club | Mysuru

2023 – 2025

- Led aerodynamic design of SAE Aero Design 2024 and 2025 aircraft for maximum STOL in SolidWorks & validated performance using XFLR and Ansys CFD, securing 3rd place (Florida 2024) and 6th place (Texas 2025).
- Engineered lightweight structures to withstand takeoff, flight, and landing loads; introduced balsa, Monokote, and carbon-reinforced fabrication to the club and validated designs using Ansys FEA.
- Optimized avionics with an in-flight gimbal, mitigating ~70% of cross-wind related flight instability from SAE 2024.
- Built test rigs including a dynamic wind tunnel, propeller motor dynamometer, and load-cell CG balancer to support design validation and component selection.
- Reduced club expenditure by 30% in 2025 through direct manufacturer sourcing; restructured teams with defined roles and improved recruitment, onboarding, and training.

Project Lead: BAJA 800 All-Terrain Buggy

Klantech | College Automobile Club | Mysuru

2021 – 2023

- Designed all-terrain buggy structure in SolidWorks with Ansys structural validation & contributed to chassis and sheet metal body fabrication, securing 1st Place at BAJA 800, Hyderabad (2023).
- Designed and fabricated steering column and braking system assemblies, translating CAD models into production-ready components for vehicle integration.
- Executed end-to-end vehicle integration including driver controls, cable routing, engine and driveshaft installation, suspension, and steering subsystem fitment.

Internship: Flexible Packaging Manufacturing

Rishi FIBC | Nanjangud

2024 – 2024

- Observed and documented full manufacturing stages of polybag production from raw pellets to finished goods, gaining insight into industrial production line processes.

KEY INDUSTRY-RELEVANT PROJECTS

Wind Tunnel (Final Year Project)

- Designed and fabricated a 15-metre sheet metal wind tunnel in Creo using Sheet Metal Modelling. Managed flat pattern generation, BOM costing, and full fabrication (hydraulic shearing, precision bending, welding).

CNC Lathe Converter Kit

- Designed, analysed belt drives and 3D-printed a retrofit kit to upgrade manual lathes into semi-CNC cobot using stepper motors a practical demonstration of retrofitting legacy machines with smart automation.

Home IoT Server & ERP Platform

- Built a local server on Orange Pi 5, hosting a self-managed ERP system accessible via an SSL-certified domain the foundation for the IoT machine connectivity work at Fleurette.

Myoelectric 3D-Printed Prosthetic Arm

- Integrated myoelectric sensors with actuators and microcontrollers across multiple design iterations.

Farm Irrigation, Automation & Other Mechatronic Systems

- Implemented a zoned irrigation system for a 100 m head installation, deploying IoT-controlled valves, pressure regulation, and fertigation feed. Automated pump and section-wise watering based on soil moisture, scheduled intervals, and solar generation to manage motor operation and valve actuation across a 10-acre region.
- Established a farm wide Wi-Fi mesh for CCTV monitoring, sensor & actuator control and monitoring.

ACHIEVEMENTS

1st Place	BAJA 800 2-Seater ATV	Hyderabad, 2023
3rd Place	SAE Aero Design Micro-Class	Florida, USA, 2024
6th Place	SAE Aero Design Micro-Class	Texas, USA, 2025

EDUCATION

B.E. Mechanical Engineering JSS STU, Mysore	CGPA: 7.2	2022 – 2025
Class 12 (Karnataka Board) Mahajana PU College, Mysore	80.6%	2021
Class 10 (CBSE) NPS International School, Mysore	74.2%	2019

LANGUAGES

English (Fluent) | Hindi (Fluent) | Kannada (Conversational) | French (Basic)