SIVA BALAN S

📞 82487-08740 | ✉ sivabalan2005cegmech@gmail.com | 🔗 linkedin.com/in/siva-balan-s-985542258 | 🌐 https://sivab.lovable.app/

SKILLS

ENGINEERING DESIGN & ANALYSIS

CFD (Ansys Fluent) | CAD (SolidWorks, AutoCAD, Creo, Generative Design) | FEA/CAE (ANSYS Static Structural, Thermal analysis, Fatigue Analysis)

PRODUCTION & QUALITY

Product Lifecycle Management | Material Nesting and Process optimization | NDT | Quality Control | FMEA

SUPPLY CHAIN & OPERATIONS

Inventory Data Management | BOM | EOQ Analysis | Material Requirement Planning| ERP Workflow (PR to GR)

DATA ANALYTICS & AI

Python | Power Bi | MATLAB | Excel (VLOOKUP, PivotTables) | Generative AI | Prompt Engineering | MS Tools

INTERNSHIP EXPERIENCE

SDR AUTO PRIVATE LIMITED   Tiruvallur
Intern, Supply Chain Department   **Jun 2025 - Jul 2025**

- Transformed raw material planning using **MAXCut software**, which reduced **cutting layout preparation time by 70% and scrap generation by 20%**, enabling data-driven EOQ procurement for cost savings.

- Implemented a cloud- based procurement model that automates the purchase of in-house components which **reduced the purchase lead times by 60%**.

RANE BRAKE LINING LIMITED   Puducherry
Intern, New Product Development Department   **Jun 2024 - Jul 2024**

- Collaborated with NPD teams on 3+ R&D components, executing pilot runs and validating processes as per **APQP standards** for **QA/QC compliance**.

- Led precision inspections and root cause analysis, developing technical documentation for successful **PPAP submissions**.

PROJECT EXPERIENCE

OPTIMIZATION OF PROCESS PARAMETERS OF   Final Year Project
SUBMERGED FRICTION STIR WELDING   (Ongoing)

Design and Fabrication of a **Submerged Friction Stir Welding System for AA7475** Alloy with Optimization of Preheating and Process Parameters and Evaluation of Mechanical and Tribological Properties.

HOLE QUALITY & METROLOGY ANALYSIS   5th Semester

Validated hole quality on aerospace-grade aluminum and titanium plates using CMM and achieved **98% AS9102 compliance** through statistical analysis of measurement data.

ACTIVE PNEUMATIC COLLISION MITIGATION SYSTEM   4th Semester

Designed and developed a pre-collision system using pneumatic and ultrasonic sensors to detect obstacles **within 5 m** and deploy bumpers in **0.3 s**, reducing **impact forces by 40–60%.**

PARTICIPATION & AWARDS

MEGATV | Autosports India | SRIT, Coimbatore | Apr 2025

Secured Overall **AIR 1** in **electric ATV category** and 1st in night endurance.

eBAJA | SAEINDIA | BVRIT, Narsapur | Feb 2025

Secured Overall **AIR 12** in ebaja competition and 4th in Maneuverability event.

EDUCATION

CEG, ANNA UNIVERSITY
B.E in Mechanical Engineering

- Cumulative GPA **7.97/10**

K.M.M.H.S SCHOOL - CUDDALORE
Higher Secondary Education

- HSLC Percentage: **96.33%**
- SSLC Percentage: **96.80%**

EXTRA-CURRICULARS

CEG MOTORSPORTS

BRAKES LEAD

- Designed and fabricated an **electric ATV** for **eBaja SAE** competition, collaborated with the **40-member cross- functional team** to develop Chassis, BMS, Motor controller, Powertrain, Drivetrain, Suspension and Brakes Sub- systems.

- Co-operated on **prototyping**, **CNC fabrication**, **composite bodywork**, and **DAQ testing;** managed project timelines, technical risks (**DFMEA**), and ₹9 Lakh budget/sponsorships.

- Innovated an impeller-integrated disc design using CFD analysis **(ANSYS Fluent)**, **enhancing toroidal airflow** by 40% and reducing peak temperatures by 20°C.

NATIONAL CADET CORPS

SENIOR ORGANISER

- Attended technical training camp at **INS Shivaji** (2023, 2024), gaining hands-on exposure to naval engineering systems.

- Co-directed **"HALOWINGS'24"** 5KM Marathon, leading marketing outreach and logistical coordination.

CERTIFICATIONS

- Simulink Onramp- Mathworks
- Master the end-to-end journey from writing effective prompts to building real-world AI agents- Udemy.
- Oracle Cloud Infrastructure 2025 Certified AI Foundation Associate certification- Oracle.
- Power BI Fundamentals- Datacamp
- What is Generative AI- LinkedIn
- Japanese Language Proficiency Test JLPT- N5 Level **(88.8 Percentile)**
- NCC 'B' & 'C' Certificate.