

AJAY RAJU MJ

MECHANICAL ENGINEER

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SUMMARY

Mechanical Engineering student seeking a core engineering role in design, thermal systems or manufacturing. Hands-on exposure to fabrication, welding, assembly and quality control on industrial projects, supported by project work in thermal reactor design and machine condition monitoring.

EDUCATION

Bachelor of Engineering in Mechanical Engineering

2023 - 2027

Government College of Technology, Coimbatore

INTERNSHIP

SANJMAR INDUSTRIES, CHENNAI

- Gained practical knowledge of industrial fabrication, material preparation, welding, assembly and quality control on engineering projects associated with GAIL (India) Limited.
- Observed weld inspection and dimensional checks against drawings and the documentation used for shop-floor quality clearance.

REVO TECHNOLOGIES AND ENTERPRISES, CHENNAI

- Worked with industrial heating systems and implemented temperature data acquisition for process monitoring; analysed the recorded data to study heating performance and identify deviations from set conditions.

PROJECTS

PYROLYSIS REACTOR - Waste Plastic to Liquid Fuel

- Designed and fabricated a batch-type pyrolysis reactor that thermally decomposes waste plastic in an oxygen-free chamber to produce liquid fuel, gas and char.
- Sized the reactor and condenser for the thermal load, selected materials for high-temperature service, and modelled the assembly in CAD.
- Ran trials over a controlled temperature range to study the effect on oil yield.

PREDICTIVE MAINTENANCE IN FUEL CELLS (AI INTEGRATED)

- Developed a condition-monitoring approach for a PEM fuel cell stack using parameters such as voltage, current density, temperature and humidity.
- Applied a machine learning model to detect degradation trends and estimate remaining useful life ahead of failure.

TORQ AI : Building a domain-specific assistant that answers mechanical engineering queries from standards and design references.

SKILLS

Design & Drafting : CAD Modelling, 2D Manufacturing Drawings

Manufacturing & Fabrication : Welding, Material Preparation, Sheet Metal Work, Assembly, Machining Processes

Thermal & Energy : Thermodynamics, Heat Transfer, Industrial Heating Systems, Fuel Cells, Pyrolysis

Maintenance : Condition Monitoring, Preventive & Predictive Maintenance

Software : CREO, ANSYS APDL, SOLIDWORKS

Soft Skills : Communication, Leadership, Teamwork, Problem Solving, Critical Thinking, Adaptability

POSITIONS

PRESIDENT - YOUNG MINDS CLUB OF GCT YOUTH

2025 - 2026

- Leading a student service organization focused on community initiatives and campus development programs; responsible for coordinating volunteers and planning events.

CERTIFICATION & ACHIEVEMENTS

Winner - Shark Tank Innovation Challenge - presented an AI-powered CNC concept enabling CNC machines to interpret natural language commands.

REVIT MEP Certification - Successfully completed the REVIT MEP training program conducted through MSME.

Languages : Fluent in Tamil, English and Hindi