

Aryan Agrahari

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Professional Summary

Final Year Mechanical Engineering undergraduate with hands-on experience in CAD modelling, engineering design, manufacturing processes, and technical documentation. Proficient in SolidWorks, Fusion 360, and ANSYS Workbench, with industrial exposure through internship at BHEL HERP and experience developing mechanical engineering projects including EV go-kart chassis, engine assemblies, and wind turbine systems. Seeking opportunities in Mechanical Engineering, Design, Manufacturing, Production, Quality, and related engineering domains.

Education

Bundelkhand Institute of Engineering & Technology, Jhansi
B.Tech, Mechanical Engineering | 2023 – Present
CGPA: 7.398/10

Radiant Central Children Academy, Jalalpur
Class XII (PCMB) | 2022
87.5%

Radiant Central Children Academy, Jalalpur
Class X | 2020
90.83%

Experience

BHEL, HERP, Tarna Shivpur Varanasi | Summer Intern (*June 2025–July 2025*)

- Supported job setup, tooling selection, workpiece alignment, and clamping operations on the TG25/3000 MARIO CNC Vertical Boring Machine used for machining heavy engineering and turbine-related components.
- Documented CNC machining workflows, production practices, and quality-control procedures while studying large-scale manufacturing operations in a heavy engineering environment.
- Prepared technical documentation and gained practical exposure to industrial safety standards, machining practices, mechanical assembly operations, and manufacturing process planning.

RoboKart | STEM Trainer & Lab Setup Associate (*23 April 2026–30 April 2026*)

- Established Astronomy and Robotics Laboratories in PM SHRI schools, including installation, configuration, and operational setup of STEM laboratory equipment under a STEM education initiative.
- Conducted 6 full-day hands-on training sessions for 70+ students and 20+ faculty members on robotics, astronomy, and STEM laboratory operations.
- Delivered technical demonstrations and training across two PM SHRI schools during a six-day field deployment.

Projects

Go-Kart Chassis Design & Analysis | CAD, Vehicle Design

- Designed an HFKC-compliant EV go-kart chassis in SolidWorks using AISI 1018 steel tubing.
- Performed structural analysis in ANSYS and optimized the design through multiple iterations for strength and weight reduction.

Autonomous Obstacle Avoiding Robot | Arduino, Robotics

- Developed a four-wheel autonomous robot using Arduino Uno, ultrasonic sensing, and servo-based environmental scanning.
- Implemented obstacle detection and avoidance logic through integration of sensors, actuators, motor drivers, and embedded programming.

V12 Internal Combustion Engine Assembly | CAD, Mechanical Assembly

- Developed a 50-component V12 engine assembly with realistic piston-crank and valve train mechanisms.
- Conducted motion studies and assembly validation to ensure proper kinematic behavior.

Functional Horizontal Axis Wind Turbine Assembly | Mechanical Design, CAD

- Designed a 15-component HAWT assembly including blades, hub, nacelle, transmission system, and support structure.
- Performed motion studies and incorporated additive-manufacturing considerations to create a functional 3D-printable model.

5-Cylinder Radial Engine Mechanism | Mechanism Design, CAD

- Developed a fully constrained 5-cylinder radial engine assembly in Fusion 360 with realistic piston and connecting rod motion.
- Validated crankshaft rotation, piston reciprocation, and interference-free operation through motion analysis.

TECHNICAL SKILLS

- **CAD & Design:** SolidWorks, Fusion 360, CAD Modelling, Assembly Design, Weldments, Sheet Metal, Surface Modelling
- **CAE & Analysis:** ANSYS Workbench, Static Structural Analysis, Modal Analysis, Mesh Generation
- **Manufacturing & Drafting:** CNC Basics, GD&T, Technical Drawings, 3D Printing Fundamentals, Design for Manufacturing(DFM), Design for Assembly(DFA)
- **Core Mechanical:** Machine Design, Mechanism Design, Manufacturing Processes, Engineering Drawing
- **Programming Languages:** C, C++, Python
- **Tools:** MS Excel, MS PowerPoint, MS Word
- **Electronics & IOT:** Arduino Uno, ESP8266, ESP32, Sensor Integration, Relay Interfacing
- **Documentation:** Technical Documentation

POSITIONS OF RESPONSIBILITY

Joint Secretary, Automation & Robotics Club, BIET Jhansi *(September 2025–Present)*

- Coordinated robotics workshops, technical activities, and student participation in automation-related projects.

Coordinator, Training and Placement Cell, BIET Jhansi *(October 2024–Present)*

- Supported placement activities, student communication, and training programs.

Coordinator, Cultural Sub Council, BIET Jhansi *(October 2024–Present)*

- Assisted in planning and execution of cultural events, stage coordination, and student engagement activities.

ACHIEVEMENTS

- Secured 1st Position in the Inter-College MANAK Quiz Competition at MANAK Utsav 2025, conducted under the Bureau of Indian Standards (BIS) (2025)
- Completed Design Using Standards Workshop on the application of Indian Standards in engineering design (2025)
- Recognized as Event Coordinator for the successful planning and execution of Mech Motion 2.0 (2025)
- Received Certificate of Appreciation for Outstanding Performance in Mech-Motion Workshop (2024)
- Awarded Mr. Compere for excellence in public speaking, stage management, and event anchoring (2025)

CERTIFICATIONS

- ANSYS Formula SAE Chassis Analysis (2026)
- ANSYS BAJA SAE Chassis Analysis (2026)