

SUBHANKAR KULKARNI

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📍 Jaysingpur, MH 416101

SKILLS:

TECHNICAL: MACHINE LEARNING, PREDICTIVE MAINTENANCE, RUL MODELING, VIBRATION ANALYSIS, SIGNAL PROCESSING, FAULT DIAGNOSIS, MATHEMATICAL MODELING, CONDITION MONITORING

TOOLS: PYTHON (NUMPY, PANDAS, SCIKIT-LEARN), MATLAB, CATIA, AUTOCAD, ANSYS

CORE: GEAR DYNAMICS, MANUFACTURING PROCESSES, METAL CASTING

PROFESSIONAL: PROJECT MANAGEMENT, TECHNICAL PRESENTATION, COMMUNICATION, TEAMWORK

📄 CERTIFICATIONS

- Certified Ready Engineer — Tata Technologies (2026)
- Mechanical Metal Casting — NPTEL
- MATLAB for Engineering Computation — MathWorks

PROFESSIONAL SUMMARY

Mechanical Engineering student with strong expertise in manufacturing systems, machine learning, and data-driven engineering solutions. Experienced in applying vibration analysis, signal processing, and mathematical modeling for fault detection and condition monitoring. Proficient in Python, MATLAB, and CAD tools, with hands-on experience in developing integrated engineering projects. Demonstrates strong problem-solving, project management, and teamwork skills, with a proven ability to deliver practical and innovative solutions.

EXPERIENCE

VIRTUAL INTERNSHIPS & INDUSTRIAL SIMULATIONS

- **Siemens (Manufacturing & Project Management):** Defined project scope and KPIs; calculated Estimate at Completion (EAC) to forecast financial outcomes and project costs.
- **Diageo (Process Optimization):** Evaluated distillation and maturation workflows to optimize spirit yield; identified bottlenecks in bottling lines to enhance throughput.
- **J.P. Morgan (Quantitative Research):** Modeled commodity storage contracts and performed credit risk analysis using FICO score evaluation.
- **Tata Group (Data Visualization):** Analyzed business scenarios to create data-driven visualizations and supported decision-making through analytical storytelling.

PROJECTS

Smart Gear Monitoring & RUL Prediction System

- IoT-based real-time gear health monitoring & predictive maintenance system
- ML + vibration analysis for fault detection and RUL prediction
- Integrated dashboard for continuous monitoring and early fault detection

LANGUAGES

English (Fluent)

Hindi (Fluent)

Marathi (Fluent)

German (A1 Level)

- Fundamentals of Machine Learning & AI — AWS
- Python Programming — Learntube
- Data Visualization & Business Insights — Forage
- Project Management — Oxford Home Study Centre
- +20 additional certifications in AI, CAD & Data Analytics

ACHIEVEMENTS & LEADERSHIP

- Certified Ready Engineer — Tata Technologies (2026)
- 1st Place Winner – KIT PBL Day (2025)
- Best Presenter Award – COEP
- Certificate of Excellence – Volkswagen (Team: Oracles of Gears)
- Placement Coordinator – Led industry-student relations and recruitment

RESEARCH

- · Gear Health Management & RUL Prediction — Presented at Scopus-indexed conference; developed RandomForest model (MAE: 0.07 hrs)
- · AI-Assisted CNC Process Planning — Built Python (OpenCV, Scikit-learn) system for automated feature recognition
- · Tribological Interface Analysis — Used GRA to identify lubricant-driven performance drop at 600 hrs