# Asit Narwade

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## Profile

Third-year Mechanical Engineering student with robust hands-on experience in CAD design, prototyping, and cross-disciplinary collaboration. Completed an internship at BETIC, IIT Bombay, redesigning critical components and streamlining manufacturing processes. Demonstrated aptitude for integrating mechanical, electrical, and software elements into complex projects. Eager to contribute mechanical design and automation skills in a fast-paced engineering environment.

## Education

**Indian Institute of Technology, Dharwad** **2023 - Present**
*B.Tech, Mechanical Engineering*
- **GPA:** CPI: 8.78 (current)

**Kendriya Vidyalaya Powai** **2020 - 2022**
*Class 12, CBSE*

**Kendriya Vidyalaya Powai**
*Class 10, CBSE* **2019 - 2020**

## Internship Experience

**Biomedical Engineering and Technology Innovation Centre (BETIC), IIT Bombay** **Jun 2025 - Jul 2025**
*Design Intern*
- Redesigned airflow pathways and blower assembly for an Auto CPAP device by evaluating tradeoffs between material selection and manufacturability, achieving significant noise reduction and meeting hospital standards.
- Collaborated cross-functionally with clinicians and engineers to refine designs, integrate ergonomic improvements, and enhance patient safety while ensuring alignment with product requirements.
- Modeled and tested 3D prototypes using SolidWorks, applying robust mechanical engineering fundamentals and 2D design principles to assess material compatibility and performance.
- Analyzed competitive medical devices to identify design gaps and performed failure mode analysis to inform safety enhancements and future prototype adjustments.
- Documented design decisions and testing outcomes in Good Documentation Practices (GDP) reports, ensuring clear communication and traceability for regulatory readiness.

## Academic & Research Projects

**Project under Prof. Samarth.S.Raut** **Aug 2025 - Present**
*IIT Dharwad*
- Developing methods for 3D reconstruction of bones and centerline extraction from STL/surface mesh files.
- Applying biomedical image processing and computational geometry for accurate anatomical modeling.
- Potential applications in prosthetics design, surgical planning, and patient-specific implants.

## Technical Skills

- **Image Processing**: ITK-SNAP, 3D Slicer
- **CAD/Design**: SolidWorks, 2D
- **Manufacturing**: 3D Printing (FDM), Laser Cutting, CNC, GD&T, tolerancing, machining
- **Simulation**: ANSYS, MATLAB
- **Programming**: Python, C, Excel
- **Documentation**: Good Documentation Practice (GDP), design rationale, technical reports
- **Soft Skills**: Project management, leadership, communication, teamwork, creative problem-solving
- **Engineering & Prototyping**: Mechanical Engineering Fundamentals, Designing Mechanical Systems, Prototyping Skills, Failure Mode Analysis

## Leadership & Extracurriculars

**Institute Innovation Council, IIT Dharwad** **Jan 2024 - Present**
*Core Member, Operations Team*
- Coordinated and executed "E-Summit 2024", managing logistics, speaker engagement, and scheduling.
- Supported innovation-focused competitions, fostering student prototyping and problem-solving.

**Mechanical Engineering Dept., IIT Dharwad** **Oct 2023 - Jul 2024**
*Branch Representative*
- Acted as liaison between students and faculty, addressing academic and administrative concerns.
- Organized feedback sessions and initiatives to enhance academic engagement.

**InGene Motorsports Club, IIT Dharwad** **Oct 2024 - Present**

*Crew Member*

- Designed and iterated CAD models of chassis and suspension systems for F1-scale model cars.
- Applied material analysis, GD&T, and tolerancing to improve performance and reliability.

## Languages

- Marathi (Native)
- English (Fluent)
- Hindi (Fluent)
- German (Basic)