

# PARTH KHARCHE

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## OBJECTIVE

Mechanical Engineering undergraduate focused on high-performance drivetrain systems and industrial mobility solutions. Experienced in designing torque-dense actuation systems and structurally robust drive modules with emphasis on durability and manufacturability. Motivated to contribute to next-generation commercial vehicle engineering in a global automotive environment.

## EDUCATION

**Bachelor of Technology in Mechanical Engineering**  
**Minors in Supply Chain Management**  
COEP Technological University, Pune. CGPA : 7.95

2023 - 2027

## SKILLS AND INTERESTS

<b>Mechanical</b>	CAD, Mechanism Design, 3D Printing, ANSYS, Prototyping, Manufacturing, Mechanical Assembly
<b>Robotics</b>	C++, Python, ROS2, OpenCV, ESP32, Arduino, Raspberry Pi, Sensor Integration & Fusion
<b>Soft Skills</b>	Presentation, Team work, Cross team collaboration, Time Management, Team Management

## PROJECTS

<b>Robocon 2025 – Basketball Robots</b>	September 2024 – July 2025
Designed stable base drive and jump mechanisms; executed rapid prototyping and manufacturing of competition robots.	
<b>SPOT-Inspired Quadruped Robot [Link]</b>	Jan 2024 – Mar 2024
Designed a quadruped robot in SolidWorks with emphasis on stability, modularity, and terrain adaptability.	
<b>Swerve Drive Design [Link]</b>	Feb 2025 – Mar 2025
Designed and simulated an omnidirectional swerve drive with a custom planetary gear mechanism.	

## INTERNSHIP/EXPERIENCE

Social Internship : KARIGAR - School of Applied Learning, Pune.	May 2024 - June 2024
Technical Team Member in ROBOT STUDY CIRCLE, COEP TECH.	September 2024 - July 2025

## POSITION OF RESPONSIBILITY

Technical Team Member in ROBOT STUDY CIRCLE, COEP TECH.	September 2024 - July 2025
Head of Design, Renewable Energy Club .	January 2024 - September 2024

## ONGOING RESEARCH / PROJECT

<b>Heavy-Duty Modular Swerve Drive System for Industrial and Vehicular Mobility Platforms</b>	Dec 2025 – Present
Developing a heavy-duty industrial swerve drive module integrating high-torque drivetrain, precision steering actuation, and robust structural design for reliable omnidirectional mobility under high payload conditions.	
<b>Design of a 106:1 Compact 70mm Actuator for High-Torque Applications</b>	Dec 2025 – Present
Designing a compact high-reduction actuator combining gearbox configurations to achieve high torque density with reduced backlash. Focus on mechanical design, load distribution, and manufacturability for industrial and mobile robotic systems. Working on conference Paper.	

## CERTIFICATIONS

DD-ROBOCON'25, RoboAI - MyEquation, ROS2 - Odometry and Control, Johnson & Johnson - Robotics Simulation, Accenture - Strategic Consulting, OpenCV, Asia to Japan (Japanese Speaking Ability), JLPT N5, Aspire Leadership Programme

## LANGUAGES

English, Hindi, Japanese [N4; N3-ongoing]