

Shatakshi Goel

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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech in Mechanical Engineering	Indian Institute Of Technology, Jodhpur	8.04 (Current)	2022-Present
Senior Secondary	CBSE Board	97.40%	2022
Secondary	CBSE Board	98.6%	2020

EXPERIENCE

Design and Hardware Development of an Anthropomorphic Robotic Finger | IIT, Jodhpur Jan 2025 – Apr 2025

- Designed and 3D-printed a robotic finger using SolidWorks, cutting prototyping time by 30%.
- Developed a tendon-driven actuation mechanism mimicking human flexion with over 90% motion accuracy.
- Integrated control system for real-time motion with response latency under 50 ms.
- Improved performance consistency by 40% through four iterative hardware and firmware updates.
- Skills:** CAD (SolidWorks), Rapid Prototyping, Embedded Systems, Mechatronics

PROJECTS

Newsisthan | Self Project | [Github](#) 07/2024 – 07/2024

- Built a news aggregation platform extracting headlines from 4 newspapers using web scraping.
- Added a notes section for creating, editing, and downloading notes in text format.
- Used Node.js for backend and HTML/CSS for a clean, user-friendly interface.
- Skills:** HTML, CSS, JavaScript, Node.js

E-commerce Store | Self Project | [Github](#) 01/2025 – 03/2025

- Designed a fiber system integrating multiple fiber types to generate LG beams with 85% mode purity.
- Reduced signal loss to 1.2 dB through optimized splicing and alignment.
- Achieved a 3–5x increase in potential data rate using orbital angular momentum multiplexing.
- Skills:** Fiber Optics, Optical Communication, Beam Profiling, Signal Processing

Smartphone-Based Human Activity Recognition | Self Project | [Github](#) 05/2024 – 07/2024

- Processed 10,299 smartphone motion samples to classify 12 human activities using ML models.
- Applied PCA and LDA for feature reduction, improving accuracy by 10% and reducing training time by 25%.
- Trained KNN, Decision Tree, RF, and SVM models; achieved 95.16% accuracy using Linear SVM.
- Skills:** Signal Processing, Time-Series Analysis, Supervised Learning, PCA/LDA

SKILLS

- Technical Skills:** C/C++, Python, MATLAB, SolidWorks, AutoCAD, Prototyping, 3D Printing, Excel, JavaScript
- Soft Skills:** Leadership, Effective Communication, Initiative, Time Management, Analytical Thinking, Team Collaboration, Adaptability, Problem Solving
- Utilities:** Git, GitHub, LaTeX
- Other Skills:** Machine Learning, Deep Learning, Competitive Programming, Jupyter Notebook, Google Colab

KEY COURSES TAKEN

- Introduction to C
- Machine Learning
- Data Structures and Algorithms
- Introduction to Robotics
- Thermodynamics
- Fluid Mechanics
- Heat Transfer
- Mechanics of Solids
- Control of Mechanical Systems

ACHIEVEMENTS

- Ranked among the **top 10** in my department, demonstrating consistent academic excellence.
- Won a Silver Medal in Varchas 2024 and a Bronze Medal in Varchas 2023 at IIT Jodhpur's annual sports festival, showcasing leadership and teamwork.
- Earned 9/10 grade in Introduction to Robotics under Dr. Bhivraj Suthar, AIDE, IIT Jodhpur
- Secured a position in the top 10% in the National Science Olympiad during high school.

POSITIONS OF RESPONSIBILITY

- Assistant Head** - PR team of **Varchas 2023**, IIT Jodhpur, responsible for managing public relations and media coverage.
- Head** - Accommodation and Transportation in Ignus 2025, Cultural Fest, IIT Jodhpur, overseeing logistics for 500+ participants.
- Active member of the Football Society, contributing to team strategy and organizing inter-college tournaments.