



EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year of Passing
B.tech (CE)	Indian Institute of Technology, Jammu	7.34 (Till 4th Semester)	2026
12th Standard	GRM School, Bareilly	94%	2021
10th Standard	GRM School, Bareilly	93.4%	2019

PROJECTS

- **See Through Armour (STA), Indian Army** May. 2024
Developed an AI based smart AR glasses system for Indian Army's Tanks.
 - **Tools & technologies used:** Google Colab, Linux, Python, Open CV, PyTorch, RTMP Streaming
 - Converted the whole project into Linux bundles for modularity and Compatibility across Linux systems
 - Optimized AR glasses to work with Nvidia Jetson Xavier NX GPU reducing the cost of overall project by upwards of 50%.
 - Refined Python scripts to reduce lag to 10-20 ms in the RTMP Stream from external 360 camera.
- **Flipkart Grid 5.0** Jan. 2024
Built an AI powered robotic arm equipped with Cameras and Sensors to tackle Packaging hurdles of the Industry.
 - **Tools & technologies used:** Raspberry PI, Stepper Motors, Depth Sensors & Cameras, YoloV8, Computer Vision, Python
 - Maximized Box and QR Code detection along with pickup and place accuracy of the Arm while managing the arm to move at a fast pace.
 - Reached National Finals and placed in the Top 5 teams all from 100+ teams all across India.
- **Autonomous EV** Jan. 2024
Developed a robust and reliable Self Driving Electric Vehicle based on Deep Learning.
 - **Tools & technologies used:** Image Processing, Deep Learning, Linux, Arduino, Sensors, Stepper Motors
 - Trained a Deep Learning model to detect road lanes, used python scripts to send that data to Arduino which would further control Servo motors to Control the EV.
 - Developed a Manual Remote Control using FS-IA6 transmitter and receiver as a fail-safe to ensure passenger safety.
- **Waste Segregation Robotic Arm** Dec. 2023
Built a Robotic Arm which could be used to segregate different type of waste materials using a gripper.
 - **Tools & technologies used:** Arduino, Robotic Operating System (ROS), Linux, Stepper Motors, Motion Planning, CAD, Inverse Kinematics
 - Engineered a robotic arm powered by ROS along with Motion Planning and Gazebo Simulation which could be used to segregate different types of waste materials.
- **AeroTHON** Aug 2023
Built a Drone for the SAE AeroTHON competition
 - **Tools & technologies used:** CAD, Performance Optimization, Material Selection, Brushless Motors, Analysis
 - Built the CAD model of the Drone and Performed Various Analysis on it to Optimize the design.
 - Carefully selected the Parts and Build Material of the Drone to Maximise Flight Time and Stability.
- **Line Following Bot** March 2023
Engineered a Fast Line following bot based on Ultrasonic Sensors
 - **Tools & technologies used:** CAD, Arduino, Stepper motors, PID controller, Maze Following Algorithms
 - Optimized the PID Controller of the bot for the fastest speed while reliably following the line.
 - Took the Bot to IIT Kanpur Techfest and World Robotics Championship.
- **Robotic Dog** Feb 2023
Built a 3D printed Robotic Dog which could perform a few tasks and walk around.
 - **Tools & technologies used:** Arduino, Servo motors, CAD, Inverse Kinematics, 3D Printing
 - Worked out the Inverse kinematics needed for proper motion of the Bot.
 - Refined and Redesigned the 3D CAD to fit the required components inside .

KEY COURSES TAKEN

- Data Structure and Algorithms, Computer Programming, Mechanics, Calculus, Strength of Materials, Linear Algebra, Structural Analysis.

TECHNICAL SKILLS

- **Programming:** C/C++, Python, Rust, HTML, SQL, Arduino
- **Tools & OS:** Git, Jupyter Notebook, Google Colab, Linux, Windows, Robotics Operating System (ROS), Docker, Nvidia Jetson
- **Libraries/Frameworks:** Numpy, Open CV, RosPy, YoloV8, OS, PySerial, etc.

POSITIONS OF RESPONSIBILITY

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| • Club Coordinator, Robotics Club, IIT Jammu | <i>Present</i> |
| • Design Head Fintech, IIT Jammu | <i>Present</i> |
| • Mentor Coding Club, IIT Jammu | <i>Present</i> |
| • Event Management Outreach Head Tinkering Lab (I2EDC), IIT Jammu | <i>2024</i> |

EXTRACURRICULAR ACTIVITIES & WORKSHOPS

- Won 1st Place in Intra College Football Competition Pahal '24.
 - Got 1st Place in Intra College E-sports Tournament Pravaah '24.
 - Got 2nd Place in Intra College E-sports Tournament Pravaah '23.
 - Attended Boeing's National Aeromodelling Workshop 2023 at IIT Kanpur.
 - Attended Canva Workshop for Designing at IIT Jammu.
 - Attended Solid Works Workshop held by SAE Club, IIT Jammu.
 - Attended Photography Workshop held by Chitraka, IIT Jammu
 - Attended Cyber Security Workshop at IIT Jammu.
 - Volunteered as Security Head at Udyamitsav '24.
 - Volunteered as Harmonic Tech Head at Anhad '24.
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