

Aryan Bargal

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Education

National Institute of Technology, Bhopal

Bachelor of Technology in Electrical Engineering (CGPA: 8.22 / 10.00)

Expected May 2025

Bhopal, M.P.

Carmel Convent Senior Secondary School Ratanpur, Bhopal

CBSE Class 12th (Percentage: 93 / 100)

2021

Bhopal, M.P.

Experience

Robonauts India

Summer Trainee

June 2023 – July 2023

Bhopal, M.P.

- Designed and implemented various sensors using operational amplifiers, transistors, and other electrical components.
- Integrated various sensors such as touch, temperature, metal detector, and gyroscope with LCD displays for interactive applications using Arduino IDE and Arduino Uno.
- Utilized ESP32 microcontroller for Internet of Things (IoT) projects and connected devices to platforms like ThingSpeak and Blynk to monitor and control systems remotely.

Projects

Robotics Hand Using OpenCV | Python, C++, OpenCV, CVZone, Arduino IDE

[Live Demo](#)

- Developed a fully functional 3D Printed Robotic Arm, controlled via hand gestures captured via webcam.
- Processed data from webcam using OpenCV and CVzone libraries to recognize hand gestures.
- Integrated processed data with Arduino to control servo motors, ensuring precise and responsive movements.

IoT Based Colour Sorting Machine | Arduino IDE, MIT App Inventor, C++

[Live Demo](#)

- Designed and developed a fully functional sorting machine that sorts objects based on their color using Arduino, a color sensor, and servo motors.
- Implemented Bluetooth module HC-05 for wireless control and communication.
- Developed a mobile application for sorting data visualization, enhancing user interaction and monitoring.

Quadruped Spider Robot | Arduino IDE, C++

[Live Demo](#)

- Developed a fully functional 3D Printed Robotic Spider with four legs, utilizing servo motors for limb motion.
- Integrated an Arduino onboard controller to manage and coordinate servo motor movements.
- Designed and optimized the robotic spider's structure for stability and agility in motion.

Technical Skills

Course Work: Analog/Digital Electronics, Power Electronics, MicroProcessor/MicroController, Data Structures and Algorithms

Languages: C/C++, Python, MATLAB, JavaScript

Soft Skills: Adaptability, Time Management, Team Work

Frameworks: Node.js, Express, React.js

Python Libraries: Numpy, Pandas, Matplotlib, SciKit Learn, OpenCV, CVZone

Achievements

- Achieved 1st place with the team in a college-level robotics competition, Make-A-Thon. (Nov 2023)
- Secured Runner-Up position in the Auto-Max a college-level robotics competition. (Sept 2022)
- Represented India at the World Robotics Olympiad with the team in a global competition. (Nov 2015)

Social Engagements

Technical Executive and Web Developer Lead: Of Evolve - the Technical EV Club of NIT Bhopal

Club Member : at Zenith - the Coding Club of NIT Bhopal

Volunteer: at Maffick - the annual cultural festival at NIT Bhopal, organizing a group of artists for mural painting.