Aarav Garg

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EDUCATION

Purdue University — West Lafayette, IN
Bachelor of Science in Robotics Engineering (GPA: 3.91) — *2023 - 2027*

EXPERIENCE

Founding President — March 2024 – Present
Humanoid Robot Club Purdue
- First group of students building a walking humanoid robot capable of space exploration.
- Raised $130,000+ and 800+ members within 6 months of launch; we're now one of the largest Purdue tech clubs.
- Got 20+ corporate partners on board including AMD, Autodesk, Altium, Mouser Electronics, etc.

Undergraduate Researcher — August 2024 – Present
Mechanisms And Robotic Systems Lab
- Researching under Dr. Yu She on an NSF-funded Underwater Swarm Robotics project to explore underwater cavities in icebergs at the intersection of tactile sensing and computer vision.
- Integrated all electrical components and wrote the embedded code in C++ for the satellite robots.

Project Head — September 2023 – August 2024
Sphero Swarm
- Launched swarm robotics research project under Prof. Severin Thomas; 30+ team members across 5 sub-teams.
- Using robot balls to depict polymerization. Teams for OpenCV, Arduino, ESP32, and Fusion360.

Founder & CEO — 2021 – Present
Tech Nuttiez
- Ed-tech startup for robotics education. Led team of 30+ people. Built complex app in Flutter + Firebase.
- 1.2 Million+ students impacted and 10,000+ active users from 180+ countries.

PROJECTS

Robotic Arm That Learns | *Arduino Mega 2560, C++, Eagle PCB, Fusion360*
- Robotic arm that can be trained on tasks without technical knowledge. Used Arduino Mega and custom PCB.
- Project completely sponsored by 3 different brands. Designed 3D model for arm and control panel in Fusion360.

Smart Spice Box | *Arduino UNO, C++, Eagle PCB, Fusion360*
- Developed a control algorithm for controlling up to 999 states with just 3 tactile buttons.
- Won first prize globally in an Autodesk design contest for the same.

Pocket Weather Station | *Arduino Nano, C++, Eagle PCB, Fusion360, TinkerCAD, VSCode*
- Pocket-sized weather station to measure real-time weather conditions. Used DHT11 module and Arduino Nano.
- Upgraded to the better DHT22 sensor later for precise weather readings.

Pencil Graphite-Based Flex Sensor | *Schematics, Electronics, Chemistry*
- Created a flex sensor by recycling pencil graphite. Dropped the cost from $20 to less than $1.
- Used the variable conductivity of pencil graphite to read electronic signals at varying analog values.

Handy Theodolite | *LIDAR, Electronics, Physics*
- Low-cost theodolite for farmers, reduced cost to $20 where $800 industrial average.
- State Winner, National Qualifier at National Science Exhibition India.

TECHNICAL SKILLS

Programming Languages: Java, Python, C++, R, Dart, SQL, MATLAB
Frameworks: Flutter, Firebase, Android Dev, Arduino, Github, Autodesk Fusion, NX, CAD
Hardware Skills: System/Board Design, Circuit Board Layout, Schematic Design, Computer Architecture, CANBus