Shruti Algam

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EDUCATION

- **B.Tech** – ***Electrical and Electronics Engineering*** *November 2022 – June 2026*
  VNR Vignana Jyothi Institute of Engineering and Technology - CGPA: 8.66
- **Board of Intermediate Education** *June 2020 – May 2022*
  Sri Chaitanya Junior Kalashala – Percentage: 97.8

TECHNICAL SKILLS

Programming: Python, C/C++, Embedded C ,SQL.
Robotics & Simulation: Arduino,Raspberry pi,stm32, ESP32, Tinkercad, AutoCAD, MATLAB/Simulink.
Frameworks & Tools: VS Code, Arduino IDE, Jupyter Notebook
Soft Skills: Team Leadership, Technical Communication, Project Management, Event Organization,Time management.

PROJECTS

Robotic Arm for Object Pickup | *Arduino UNO, Servo Motors, Kinematics* *February 2025*
- Built a 5-DOF robotic arm with servos for precise object manipulation using inverse kinematics.
- Achieved **90%** accuracy in object pickup and placement, enhancing automation efficiency.
- Reduced manual intervention by **90%**, improving speed and reliability in object-handling tasks.

Smart Waste Segregation System | *Arduino UNO, Servo Motors, OpenCV, Edge Impulse* *March 2025*
- Developed an automated waste segregation system using object detection to classify dry and electronic waste.
- Used Arduino and servo motor control to open specific lids based on detected waste type.
- Improved waste management efficiency and promoted eco-friendly disposal with low-cost embedded hardware.

Tetris Game on Raspberry Pi 4| *Raspberry pi 4, joy stick , VGA Display* *(still working)*
- Developed a playable Tetris game using Python and Pygame on Raspberry Pi 4.
- Designed intuitive controls and real-time graphics rendering for smooth gameplay.
- Showcased hardware-software integration and game logic implementation on embedded Linux.

ACHIEVEMENTS AND ACTIVITIES

- Secured 1st place in NASA Space Apps Challenge – Built a human follwing robot .
- Won 2 hackathons in hardware innovation – Developed real-time assistive tech solutions using Arduino and ESP32-CAM.
- Organized E-Hive Orientation 2024 – Led the design and execution of the flagship ED Cell event for over 300 students.
- Designed Smart Dustbin – Created an AI-based system to detect animals and prevent waste spillage using OpenCV and ESP32.
- Completed IBM Web Development Internship – Built a responsive website and learned front-end technologies hands-on.

EXPERIENCE

Technical Intern – Panel Board Manufacturing (Metal Detector)

- **Technical Skills Development:** Designed and assisted in the fabrication of Metal Detector Panel Boards, gaining practical experience in *AutoCAD* electrical schematics and industrial panel manufacturing.

Manufacturing Intern – (Pinnacle Generators)

- **Manufacturing Skill Development:** Monitored the manufacturing process,quality control,equipment handling and production line management .

CERTIFICATIONS

- Industrial Collaborated Certificate Course in Advanced C Programming for Real-Time Control and IoT Technology – Margarita Tech
- Robotics Internship Certificate – Kodacy