

# HARDWARE PROJECTS

## Domain: Embedded Systems & Microcontrollers

1. Smart Home Automation Using Arduino
2. Temperature-Controlled Fan System
3. Automated Plant Watering System
4. Digital Thermostat With Display
5. Smart Door Lock System
6. Gesture-Controlled Robotic Arm
7. Digital Energy Meter With LCD Display
8. Wireless Home Security System
9. Automatic Street Light Controller
10. Smart Garage Door Opener
11. Microcontroller-Based Weather Monitoring System
12. Automatic Room Light Controller
13. Smart Gas Leakage Detector
14. Temperature and Humidity Logging System

15. Arduino-Based Home Energy Management

16. Voice-Activated Home Appliances

17. IoT-Based Smart Doorbell

18. Digital Clock With Alarm System

19. Embedded Smart Irrigation System

20. Arduino-Based Attendance Monitoring System

**Domain: IoT Hardware**

21. IoT-Based Weather Station

22. Smart Water Level Monitoring System

23. IoT Air Quality Monitoring Device

24. Remote Health Monitoring Using IoT

25. IoT-Based Smart Parking System

26. Home Energy Monitoring With IoT

27. IoT Fire Alarm System

28. IoT-Enabled Gas Leak Detector

29. Intelligent Waste Bin Sensor

30. IoT Smart Refrigerator

31. IoT-Based Smart Lighting System

32. IoT-Connected Vehicle Tracking

33. IoT Environmental Monitoring for Agriculture

34. IoT-Based Street Lighting Automation

35. Smart Home Appliance Control With IoT

36. IoT-Based Smart Greenhouse System

37. Remote IoT Health Monitoring Platform

38. IoT Water Quality Monitoring Device

39. IoT-Powered Smart Classroom Automation

40. IoT-Based Temperature and Humidity Alert System

**Domain: Industrial Electronics**

41. Conveyor Belt Control System

42. Automated Production Line Monitoring

43. Motor Speed Controller Using Microcontroller

44. Industrial Temperature Monitoring System

45. Smart Factory Energy Management System

46. PLC-Based Bottle Filling Automation

47. Robotic Welding Arm Controller

48. Vibration Sensor for Machine Health Monitoring

49. Automated Sorting Machine for Factories

50. Industrial IoT Gateway for Monitoring

51. Smart Factory Lighting Automation

52. Automated Packaging Line Controller

53. Industrial Sensor Data Logger

54. PLC-Based Conveyor Sorting System

55. Automated Inventory Management in Industry

56. Motor Fault Detection System

57. Machine Condition Monitoring System

58. Industrial Temperature and Humidity Control

59. Robotic Conveyor Arm for Material Handling

60. Smart Factory Energy Consumption Dashboard

**Domain: Robotics Hardware**

61. Line Following Robot

62. Obstacle Avoidance Robot

63. Pick-and-Place Robotic Arm

64. Automated Delivery Robot

65. Humanoid Robot Prototype

66. Vision-Based Navigation Robot

67. Surveillance Drone Hardware

68. Autonomous Ground Vehicle

69. Swarm Robotics Demonstration Kit

70. Robotic Hand Prosthetic

- 71. Gesture-Controlled Robotic Rover
- 72. Robotic Arm With Force Feedback
- 73. Autonomous Maze Solving Robot
- 74. Robotic Vacuum Cleaner Prototype
- 75. Smart Robotic Assistant for Home
- 76. Robot With AI-Based Object Recognition
- 77. Teleoperated Robotic Arm

78. Robotic Hand for Industrial Automation

79. Humanoid Robot With Voice Interaction

80. Mobile Robot With Obstacle Detection

**Domain: Renewable Energy & Power Electronics**

81. Solar-Powered Battery Charger

82. Wind Energy Monitoring System

83. Smart Grid Energy Controller

84. Solar Tracking System

85. Micro-Hydro Power Generator

86. Battery Management System for Solar

87. Energy Harvesting Circuit Using Piezoelectric Sensors

88. Hybrid Solar-Wind Energy Controller

89. MPPT-Based Solar Controller

- 90. EV Battery Charging Controller
- 91. Solar-Powered Water Pump Controller
- 92. Energy-Efficient Lighting Controller
- 93. Renewable Energy Storage System
- 94. Battery Health Monitoring System
- 95. Smart Energy Meter for Solar Systems
- 96. Solar Inverter With Remote Monitoring
- 97. Hybrid Renewable Energy Dashboard
- 98. Microcontroller-Based Wind Turbine Controller
- 99. Smart Solar-Powered Street Light System
- 100. Energy Management System for Microgrids