

# ARYAN PIYUSH

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Recently completed my bachelor's degree in Electronics and Communication at the Manipal University Jaipur and seeking a responsible position to gain practical experience in the RF, Embedded and VLSI domains.

## TECHNICAL SKILL

- **Programming Languages:** Verilog, System Verilog, Python, C/C++, OpenCV, Matplotlib, UVM, Shell Scripting.
- **Engineering tools/Environments:** Linux, CST Studio Suite, Synopsys VCS tool, Xilinx Vivado, FPGA (Spartan 7), Cadence Virtuoso, PCB designing (Fritzing software), Arduino IDE.
- **Embedded Platforms:** 8051, ARM Cortex 7 series teensy 4.0 micro-controller, ESP8266 Wi-Fi modules, Node MCU v1.0, Arduino Uno, STM 32.
- **Academic subjects:** AI-ML, Antenna, Operating system, Digital electronic, Low Power, Verilog, DSA, C/C++, Digital System Design.

## ACADEMIC DETAILS

Program	Institution	Year of completion
B.Tech. in ECE	Manipal University Jaipur	2024
XII (CBSE)	British English School Gaya, Bihar	2019
X (CBSE)	D.A.V. Public School, Gaya, Bihar	2017

## PROJECTS

### SMART WATER IRRIGATION SYSTEM

[Mar'21-May'21]

Implemented a working model of smart irrigation system for watering plants using ESP8266 which is control by internet and auto discharge water to the plant with the help of soil moisture sensor with the help of dc motor and electric check valve.

[Patent application filled E-12/8001/2023/DEL \[ ID P00000319 \]](#)

**Platform used:** Arduino IDE (C/C++)

**Embedded tool:** Node MCU ESP8266 Wi-Fi module

**Skills:** IoT, Timer interrupt, Programming(C/C++)

### OBJECT DETECTION USING OPEN-CV

[Jan'22- Mar'22]

Implemented a solution to detect the object, humans face and recognize easily with the help of designing own cascade. Using Machine learning and Ai helps to optimize our datasets easily.

**Platform used:** VS code.

**Skills:** Open cv (Python), Database Management System (DBMS)

### DESIGN A DRONE USING TEENSY 4.0 MICRO CONTROLLERS

[Aug'22-Present]

Designed a drone prototype for hands-on learning in mechanical design, electronics, and software development. and more about prototyping, coding, and sensor integration balancing the drone with the help of PID by using Machine learning on teensy 4.0 microcontroller along with MPU-6050 calibration sensor.

**Platform used:** Arduino IDE.

**Skills:** Embedded C, Control System, PID.

**Git hub link:** [Drone](#)

## Design various types of FSM

[Sep'23-Nov'23]

Designed various types of Finite State Machines (FSM), including overlapping and non-overlapping FSMs. I developed a basic washing machine controller that handles sequential operations such as filling, washing, draining, rinsing, and spinning. Additionally, I designed a traffic light controller that efficiently manages traffic signals, ensuring safe and orderly traffic flow at intersections.

## DESIGN DIFFERENT TYPES OF ANTENNAS USING CST SOFTWARE

[Jan'23-April '23]

Design different types of antennas using CST software.

**Platform used:** CST studio suite.

**Skills:** Antenna.

**Git hub:** [CST-Antenna-Design](#)

## SOFTWARE SIMULATION OF OBSTACLE AVOIDING SELF-DRIVING ROBOT

[Aug'23-Nov '23]

Implemented a software solution which has decision-making algorithms through which it can avoid the obstacle and create its own path to complete its destination and the RRT algorithm is used in this project.

**Platform used:** VS code.

**Skills:** Python programming language, (DSA), AI-ML

**Git hub:** [RRT-algo](#)

## INTERNSHIP

### INDUSTRIAL INTERNSHIP

[JAN'24-MAY'24]

Currently working as a project intern in SOC Team up. I am working as a verification engineer focused on developing a verification environment for the APB protocol. I am using System Verilog and UVM for this task.

### SUMMER INTERNSHIP

[May'23-July'23]

Completed as a Summer Project Intern at the IIT Patna on the topic "**Microwave millimeter Wave technology using CST software and on drone design**". The project consisted of implementing different antenna designs using CST software and working on drone designing on teensy 4.0 dev kit board (programmed using ArduinoIDE).

## PUBLICATION

[Filed a patent on Smart water irrigation system project application no. E-12/8001/202](#)

## ACHIEVEMENTS

- Attended and organize **Project Expo organized by IEEE** at Manipal University
- Attend and organize **the IEEE MTTS DMI Program conducted by IEEE MTTS** on 10th March 2023.
- Attended **Project Expo organized by IETE Rajasthan Center**, Jaipur.
- Attending an online course conducted through ISRO on "Machine Learning to Deep Learning: A Journey for Remote Sensing Data Classification". Enrollment id - 20221001561920
- Completed the course on Udemy **Nonholonomic Motion Planning Algorithms**.  
Certificate no: [UC-4ea35a59-b446-475c-9ee3-1ecdb57b2f01](#)
- LinkedIn learning C++
- Completed the course Operating Systems

## POSITIONS OF RESPONSIBILITY

- Chairperson of IEEE Aerospace and Electronics Systems Society (AESS)
- Member of IEEE Societies MTTS, APS, AESS

## HOBBIES

- Making different types of DIY hardware projects.
- Watching Movies, Traveling.