Arpit Raj

Bachelor of Technology
Electronics & Communications Engineering
Shri Mata Vaishno Devi University
Katra, Jammu and Kashmir – 182320

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Education

Degree/Certificate	Institute/Board	Year
B.Sc Data Science and Applications	Indian Institute of Technology	2025–Present
B.Tech ECE	Shri Mata Vaishno Devi University	2024–Present

Technical Skills

Programming	C, Python, Verilog, MATLAB
Embedded	PCB Design (Eagle), Arduino, Raspberry Pi, ESP-32, PYNQ-Z2 FPGA
Other Tools	Vivado, Multisim,Cadance , Ardupilot Mission Planner, Betaflight,AutoCAD, Fusion 360, OBS Studio, Google Workspace, Microsoft Office

Experience & Internships

Summer Internship-Embedded Engineer Intern 2026, *Summer Internship*
Worked in as an embedded engineer in SVS Techforge pvt ltd where I designed many FPVs, Data Collection drone and Surveillance drone. Also Designed parts and enclosure of drones.

Research Intern – Winter Consulting Project 2025, *IIT Guwahati*
Conducted data-driven analysis on OTT viewer retention using Python and exploratory data analysis techniques; identified behavioral patterns and proposed actionable strategies to improve engagement and reduce churn.

Technical Volunteer – Live Streaming 2025, *SMVDU Fest*
Managed live event streaming using OBS, handling multi-camera feeds and ensuring stable broadcast quality during large-scale university events.

Projects

Real-Time Hardware Image Processor 2025
Tech: Verilog, PYNQ-Z2 FPGA
Designed a high-speed video processing pipeline on FPGA for real-time image filtering and edge detection using custom hardware cores.

8-bit ALU Design 2025
Tech: Verilog
Designed and implemented an 8-bit ALU supporting multiple arithmetic and logical operations; verified functionality through simulation.

BJT-Based Wireless AC Current Detector 2024, *Hardware Design*
Designed and built a circuit using Bipolar Junction Transistors (BJT) to wirelessly detect the presence of AC current sources.

OTT Viewer Retention Analysis 2025, *IIT Guwahati Consulting Project*
Analyzed viewer engagement patterns in OTT platforms; identified key retention factors and proposed data-driven strategies to improve user engagement.

Certifications

VLSI Design Course 2025
National Skill Development Corporation

MATLAB Onramp 2025-26
MathWorks

Simulink Onramp 2025-26
MathWork

Consulting 2026
IIT Guwahati

Achievements & Leadership

Leadership Lead Team of Printed Circuit Board Competition, Udyamitsav 2026 winner Finxcelerate.

Volunteering NSS at SMVDU, Vikalp (A student initiative to educate unpriviledge kids), Ekatva Fest team 2025 and 2026, Udyamitsav 2026 IIT Jammu

Skills Communication & Collaboration, Event Management, book fair

Volunteering

Events Core Member, Startup and Innovation Club (SMVDU);University Representative at JKEDI innovation program

2024–Present **Volunteer Teacher**, *Vikalp Initiative*, SMVDU
Student led social initiative dedicated to providing free education and ensuring holistic development of underprivileged children from nearby villages & construction sites.

2024–Present **Core Contributor**, *Annapurna Initiative*, SMVDU
Member of a food redistribution initiative focused on collecting surplus food from hostels and distributing it to the underprivileged every night.

2024–Present **NSS**, *National Service Scheme (NSS)*, SMVDU
Actively contributed to community development initiatives through awareness drives & outreach activities in various volunteer programs organized by the institution.