

# Apoorv Rakshit

Sr. Hardware Design Engineer

Bengaluru, Karnataka, India

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## CAREER OBJECTIVE

- Seeking to contribute acquired technical skills and work experience effectively for an organization.
- To work on High Speed Designs

## TECHNICAL SKILLS

- **Software Tools:** Cadence OrCAD Capture, Allegro PCB Viewer, Altium Designer
- **Simulation tools:** TINA Industrial, MultiSim, LTSpice
- **Communication protocols:** SPI, RS232, I2C, UART, RS485, USB2.0, DDR2 || Serial & differential signal
- **Radio Frequency:** ISM band, BLE
- **Core Competencies:** Analog and Embedded hardware design/testing.
- **Hardware equipment:** Oscilloscope, Function Generator, Multimeters, Spectrum Analyzer

## PROFESSIONAL EXPERIENCE

### 75F Smart Innovations

(HVAC controls)

**Designation:** Senior Hardware Design Engineer – Product Design team

**Experience:** Sept/2021 – present

### Responsibilities:

- Schematic design, BOM creation and verification.
- Controller Selection/Module selection.
- Mixed signal based designs.
- DC/DC (buck/boost designs) converters, LDOs
- Assistance in verifying PCB layout and design
- Prototype assembly and Board Bring-up
- Testing documents preparation.
- Certifications of Products according to **FCC**., **CE**., **EN** & **UL** standards

### Projects handled:

- Battery Operated Thermostats and control
- Nodes with IAQ sensing and controls using Analog inputs and outputs working over 24Vac/dc.
- Capacitive Touch based interfaces
- Designing of common platform on which testing can be done before moving on to prototypes saving a lot of price and time for solutions which are recurring in future designs.

## Merlinhawk Aerospace Pvt. Ltd.

(Design and manufacture of airborne and ground support equipment for defense)

**Designation:** Hardware Design Engineer – R&D Team

**Experience:** May/2017 – Aug/2021

### **Responsibilities:**

- Schematics
- Analog circuit based designs//SRAM DDR2 based design
- DC/DC (buck/boost designs) converters, LDOs
- Proto board assembly and board bringup
- Test Documents / Design Documents
- Environment Stress testing.

### **Projects handled:**

- Vibration Warning System for Tail rotor (LCA) – Air Worthy Equipment
- AIO Test Equipment(ACU TESTER) of Automatic Control Unit (ACU) - Ground Equipment

## **ACADEMIC BACKGROUND**

Year(s)	Qualification – Degree / Certificate	Board/University	College / Institute/ University	Percentage
2013-17	B. Tech Electronics Engineering	University of Petroleum and Energy Studies	College of Engineering Studies	63%
2013	Class XII (Senior Secondary Examination)	ISC	S.A. Jaipuria School	80.4%
2011	Class X (High School Examination)	ICSE	S.A. Jaipuria School	88.2%

## **ACADEMIA PROJECTS**

### **Major project**

**Duration: 10 months**

**Program Title:** Vehicle Number extraction using image processing on Raspberry Pi.

**Description:** To recognize the number on a vehicle number plate for different purposes like speeding, car parking, keeping a record of vehicles. Using OpenCV and python on raspberry pi with a HD webcam, an Nearest-K Algorithm system is being used for training and then deploying in the real world for recognizing number plates.

### **Minor project**

**Duration: 10 months**

**Program Title:** Designing of a muscle activity sensor and recorder.

**Description:** Human muscles work when activated by the brain and this happens by the electrical impulses sent by the brain to the muscles. Our project is to detect these impulses and show them over a display.

### **Personal projects**

**Project title:** Tri-copter

**Duration: 3 months**

**Description:** A multi-rotor flying vehicle with three rotors. Can be used for quick surveillance for places. Provides smooth videography for its smooth stopping transition.

## PERSONAL DETAILS

Date of Birth	:	04-05-1995
Father's Name	:	Mr. Anil Kumar Rakshit
Mother's Name	:	Mrs. Deepika Rakshit
Category	:	General
Gender	:	Male
Nationality	:	Indian
Home Town	:	Kanpur
Permanent Address	:	4/31-A, Triveni Nagar, Meerpur, Cantonment, Kanpur, Uttar Pradesh
Correspondence Address	:	#277, 26th main, BTM 2 <sup>nd</sup> Stage, Bengaluru, Karnataka
Languages Known	:	Bengali, English, Hindi

I declare that the details above are correct and true to the best of my knowledge.

**Apoorv Rakshit**