

Jay Dukare

Pune, Maharashtra | +91-8624965858 | jaydukare2003@gmail.com | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

PROFESSIONAL SUMMARY

Final-year Electronics and Telecommunication Engineering student specializing in **embedded systems and hardware design**. Proven hands-on expertise in **STM32 bare-metal development, ESP32, PCB design (KiCad)**, and **real-time firmware**. Skilled in **circuit debugging, power supply design**, and **hardware–software integration**. Seeking an **Embedded Systems Engineer** or **Firmware Engineer** role.

TECHNICAL SKILLS

Hardware & Power: PCB Design (KiCad), LDO Design, Signal Integrity Analysis, Oscilloscope Debugging, Multimeter Testing, Soldering

Core Electronics: Analog & Digital Circuit Design, Sensors & Actuators, Signal Processing, Control Systems

Embedded Systems: STM32 (Bare-metal), ESP32, ESP8266, Embedded C/C++, FreeRTOS (basics), GPIO, Timers, Interrupts, DMA

Communication Protocols: UART, I2C, SPI, MQTT, WiFi/BLE, RS-485

Programming & Tools: C/C++, Python, STM32CubeIDE, Keil MDK, PlatformIO, Arduino IDE, Git/GitHub

EDUCATION

P.E.S. Modern College of Engineering, Pune Aug 2023 – Present
Bachelor of Engineering in Electronics and Telecommunication Engineering *SGPA: 8.26*

Government Polytechnic, Pune Jul 2020 – Jul 2023
Diploma in Electronics and Telecommunication Engineering *84.39%*

PROJECTS

STM32 Custom Board Design & Bare-Metal Drivers | *C, KiCad, STM32CubeIDE* | [GitHub](#) 2026
– Engineered a production-ready 2-layer PCB for STM32F446RETx using KiCad, integrating USB Micro-B input, LD1117S33 LDO, 8 MHz crystal oscillator, and SWD debug interface
– Implemented bare-metal UART and ADC drivers leveraging DMA and interrupts – no HAL library – for efficient data acquisition and fault handling

Attendify – IoT Biometric Attendance System | *ESP32, C++, Firebase* | [GitHub](#) 2026
– Developed an ESP32-based biometric attendance device using R307 fingerprint sensor with Firebase cloud sync and offline-first architecture
– Processed 100+ student entries, reducing manual attendance effort by 80%; wrote Python scripts for automated CSV report generation

Underground Cable Fault Detection System | *Arduino, C++, Analog Design* | [GitHub](#) 2025
– Designed a resistance-based fault detection system identifying 3-phase cable faults with up to 1 km location precision and under 5% error margin

Fingerprint-Based Smart Door Lock System | *Arduino, I2C, C++* 2023
– Built a fingerprint authentication system controlling a 12V solenoid lock with I2C LCD for real-time status monitoring and secure access control

EXPERIENCE & ACHIEVEMENTS

Student Intern Jul 2022 – Sep 2022
Pretech Automation Pvt. Ltd., Pune

- Wired and assembled 3 PLC control panels; tested and validated 5+ industrial automation systems
- Gained hands-on exposure to relay logic, panel wiring standards, and system commissioning

Head, IoT Hackathon 2023–24 | Led a team-level technical event at college level

Finalist, CircuitVista 2K25 | Hardware design competition