

SANJO SUNNY

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SUMMARY

I am a dedicated Electronics Engineer with expertise in developing, and testing electronic systems, passionate about driving technological advancements and delivering high-quality solutions in dynamic environments.

SKILLS

Software and tools: **Arduino IDE, Altium, Easy EDA, Proteus, Dip-Trace, NODE-RED, HiveMQ blynk , VS-code, GIT, GITHUB, Tinker cad, Free RTOS** [Queue, semaphore, mutex etc], **EDA Playground, ModelSim**

Programming: **Python, C++, Java Script, C, Embedded C, Verilog, VHDL**

Communication protocols: **SPI, UART, I2C, CAN, PCI, SCI, WIFI, BLUETOOTH, ETHERNET, USB, MQTT**

Designing: **PCB designing and Fabrication** (lamination, etching, drilling, soldering)

Hardware: **ESP32, ESP8266, 8051, Arduino UNO**, Voltage regulator, Relays, motor driver, DC motors, Sensor (Temperature, humidity, pressure, Ultrasonic, water-depth, camera module, RFID etc), OLED displays.

Others: Architecture of **RISC [ARM], CISC [x86]**, Linux, **memory** [ROM, RAM, cache etc], GPIO, Timers, Interrupt, Device Drivers, SOC, Memory Map, PCIe, Bit & string manipulation, memory management.

WORK EXPERIENCE (1 YEAR)

V- GUARD INDUSTRIES PRIVATE LTD (WATER PURIFIER [RESEARCH AND DEVELOPMENT])

- Build a **pressure monitoring system** with to monitor RO membrane and reducing 25% of complaints
- Engineered the Working, consumption of Hot and cold-water models, SMPS adaptors, solenoid valves, motors
- Tested and analyzed competitor PCBs, and other components to report latest trends in market
- Sketched out the **water leakage testing** system that speeds up reaction to such service complaint by 50%
- Engineered TDS, **turbidity, flow rate control** systems which can improve the efficiency of water purifiers
- Tested different water level monitoring systems using ultrasonic sensors, water level float etc using esp32

ACADEMIC RPOJECTS

PASSWORD BASED DOOR LOCK SYSTEM USING 8051 MICROCONTROLLER

- Coded using Keil u vision ; designed a simulation model using **Proteus** Software
- Designed PCB using **Altium designer** following PCB printing; laminating; etching; drilling; soldering

Automatic Ration System using ATMEGA 328 P

- Created a simulation model using Proteus Software and an application using MIT app inventor
- Designed PCB using **Dip-trace** and routed it; followed by PCB fabrication and configuring **fingerprint and RFID**
- Created prototype of PCB with voltage regulator, Bluetooth module, Relays, DC motors and pipes

PERSONAL PROJECTS

- **Gemini AI model** using esp32 and **google API**
- **Smart Gate** prototype using esp8266 and ultrasonic sensor, blynk, relays and motors
- **Smart weather station** and **fan control** with esp32, AHT10 sensor, google API, OLED, **NODE_RED** and **HiveMQ**
- Simulated a model of (64*8-bit) 2 port **RAM** and (8*8-bit) **ROM** using **VERILOG on EDA PLAYGROUNG**

EDUCATION

Electronics and Communication engineering [Mar Athanasius College Of Engineering, Kothamangalam]

- Developed home automation systems using ESP32 and Studied IOT, embedded systems as electives, was part of IOT club in college
- Anchored stage programs, lead many college events and organised them as a part of **Tech Fest, Art Fest, National Service scheme, Training and placement cell ,sports day etc.**

June 2019- July 2023

ADDITIONAL INFORMATION

- **Programming Certifications:** Mastering **C & C++** Programming from Fundamentals to Advanced, **Python** for everybody, "Git Command Line for Beginners"
- **Electronics certifications:** **Embedded Systems Bootcamp: RTOS, IoT, AI, Vision**, what is Timer Mode used for in Arduino programming, PCB **Design:** Designing Printed Circuit Board, Arduino **UNO** Based Obstacle Avoiding Robot Car & RC-Control,
- **Other Skills:** Basic Web designing using MERN stack, digital marketing course and read other business books, Sports, Anchoring, Leadership **Languages:** English, Malayalam, Hindi, Tamil
- **College Certifications:** National Service scheme, Training and placement cell volunteer certificate, Workshop on 5G coordinator, Fundamentals of digital marketing, IOT workshop certificate