

Vinay Vanish

Mob: 9039999665 Email: vinay.vanish@gmail.com LinkedIn: <https://www.linkedin.com/in/vinay-vanish-bbb8711ab/>

OBJECTIVE

To strive hard for a challenging position in a progressive organization using my skills and work towards my professional growth along with the growth of the organization.

SKILLS

- **Programming Languages** : Embedded C, C++, Assembly Language (ARM), python.
- **Ide's** : Keil μ Vision, STM32 Cube IDE, Arduino IDE, Visual Studio.
- **Controllers** : STM32G431RB, Arduino, ESP32, 8051
- **Protocols** : UART, I2C, SPI.
- **Peripherals** : GPIO, TIMERS, PWM.
- **Tools** : Doxygen, IAR C-STAT, Vivado, Vitis
- **FPGA & SoC Platforms** : Xilinx Artix-7 FPGA, Aries V3 (RISC-V Development Board)
- **Version Control** : GitHub.

EDUCATION

M. Tech in Electronic Design & Technology

National Institute of Electronics and Information Technology, Calicut (2022-2024)

Post-Graduation in Diploma Industrial Automation & System Design

National Institute of Electronics and Information Technology, Calicut (SEPT 2022)

B. Tech in Electronics & Communication Engineering

Rewa Engineering College, Rewa (2017- 2021)

National Institute of Open Schooling

Jabalpur - 12th

St Joseph Convent

Jabalpur —10th

INTERNSHIP & PROFESSIONAL EXPERIENCE

➤ **Junior Research Fellow (August 2024 - Present)**

National Institute of Electronics and Information Technology (NIELIT), Aurangabad

- Worked under the C2S (Chip to Start-up) project “**Ultra Low Power SHAKTI-RISC-V Based Lightweight Edge AI Processor for IoT Enabled Healthcare Applications**” focused on FPGA-based SoC design and Analog Front End (ADS1299) integration with ARM Processor.
- Conducted multiple Embedded System boot camps in different colleges using platforms like Aries V3 (RISC-V), STM32 and Node MCU.
- Involved in FPGA-based SoC design integrating SHAKTI RISC-V and ARM processors.
- Performed Analog Front-End (ADS1299) integration with ARM processor for multi-channel bio-

signal acquisition.

- Developed and validated signal acquisition pipelines for ECG, EEG, EMG, EOG, and PPG.
- Supported hardware–software co-design, focusing on performance and power efficiency.
- Conducted training and technical workshops on RISC-V and Embedded Systems.

➤ **Project Trainee (Firmware Developer) (September 2023 –July 2024)**
STMicroelectronics Private Limited, Greater Noida

- Designed and implemented firmware to enhance functionality and integration of an expansion board in industrial PLC systems, supporting automation applications.
- Embedded protocols to ensure reliable communication between the expansion board and PLC, meeting industrial requirements.
- Conducted functional, integration, and stress tests to validate firmware performance, ensuring reliability and compliance with industrial standards.
- Improved firmware efficiency through code optimization and resolved hardware-firmware integration issues, enhancing real-time processing in industrial environments.
- Worked with cross-functional teams in an industry environment, delivering a robust solution that aligned with project goals and company automation objectives.

PROJECTS

STM32 BASED TEMPERATURE & HUMIDITY MONITORING SYSTEM

Project involves the use of an STM32 microcontroller to measure temperature and humidity data using sensors. The data is then displayed in real time on a 7-segment display. The project involves selecting appropriate sensors, microcontroller, programming language, and designing a user interface for displaying the data.

KEYPAD MATRIX BASED DOOR-LOCKING SYSTEM

Project involves the development of a door-locking system using stm32 and a 4x4 matrix keypad module. A predefined password is used to open the door with the help of a servo motor. The keypad input is read through GPIO pins. The movement of the servomotor is designed with PWM

BLUETOOTH BASED SPEED CONTROLLED ROBOT

This robot is built using an STM32 Microcontroller. The robot is controlled using the UART protocol through a phone. I have created a mobile application using the MIT app inventor, which takes the data from the phone and controls speed using PWM.

HEALTH MONITORING SYSTEM

The technological advent in smart sensing devices and the Internet has provided practical solutions in various sectors of networking, public and private sector industries, and government organizations worldwide. This study intends to combine the Internet of Things (IOT) technology with health monitoring to make it personalized and timely through allowing the interconnection between the devices.

LANGUAGES

- English
- Hindi
- Marathi

CERTIFICATES

- MOOC ON ARM BASED SOC DESIGN
- MOOC ON EMBEDDED AND IOT SYSTEMS
- MOOC ON FPGA ARCHITECTURE AND PROGRAMMING
- CSIR-AMPRI ADDITIVE MANUFACTURING
- DIPLOMA IN FIRE AND SAFETY ENGINEERING

DECLARATION

I, Vinay Vanish, hereby declare that all the details furnished above are true to the best of my knowledge and belief

Vinay Vanish