PEDABALLI VISHNU VARDHAN REDDY

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Career Objective

Aspiring Embedded Systems Engineer with strong technical skills in IoT, microcontrollers, and hardware-software integration. Eager to leverage my expertise in cutting-edge technologies like IoT, AI, and smart devices to develop impactful solutions while driving meaningful industry innovations.

Skills

Technical:

Programming Languages	Microcontrollers	Tools & Frameworks	IoT Skills
Embedded-C	Arduino,	GitHub	Real-time monitoring
Bare Metal Programming	NodeMCU	Git	IoT device integration
React js	ESP32		Sensor calibration
Node js	STM32		AWS IOT
	Raspberry Pi		

Hardware Prototyping	Interpersonal
PCB Design	Adaptability
Component Soldering	Teamwork
	Collaboration
	Troubleshooting

PROFESSIONAL EXPERIENCE

Intern Pe: June 2024 – July 2024

Web Developer Intern

I completed a one-month web development internship, where I worked on building and optimizing web applications. My performance during the internship earned an experience in the web development and tried to start making the custom websites and started making my own website for my dream web application

KL UNIVERSITY: 2022 - Present

Academic Projects and Mentorship (IOT)

Guided peers and seniors in IoT and embedded systems by explaining concepts, resolving doubts, and assisting in project development. Organized hackathons to promote innovation and teamwork in the IoT domain.

PROJECTS

Real-Time Water Quality Monitoring System

Technology used: MQTT, React JS, CSS, Sensors, Azure, Custom PCB, ESP32/ESP01

- Designed a custom PCB to integrate sensors efficiently and ensure reliable data collection.
- Built a web application using React.js to display real-time water quality parameters with intuitive visualization.
- Utilized MQTT communication via Azure for seamless and scalable data transmission.

IoT-Based Home Automation System

Technology used: MQTT, Flutter, Relays, Local MQTT/AWS IOT Core, ESP32, Custom PCB

- Developed a user-friendly device compatible with existing switchboards, featuring industrial-grade relays for reliability.
- Created a mobile application using Flutter for real-time device control and monitoring.
- Implemented MQTT protocols for robust data exchange and AWS IoT Core for advanced scalability.

Motion Detection Automatic Lights and Fan System

Technology used: MQTT, React JS, ESP01, Sensor Integration, Automation

- Engineered a motion-activated automation system with custom PCB and casing for enhanced durability and functionality.
- Improved sensor accuracy by 15% through calibration and optimization, ensuring precise motion detection.
- Reduced energy consumption by optimizing system response time for seamless activation and deactivation.

STM32 Drivers Development

Technology used: **STM32, Data Sheets, Documentations**

- Developed GPIO drivers for STM32 from scratch using Bare Metal programming in Embedded C/C++.
- Enhanced skills in interpreting datasheets and technical manuals to ensure accurate driver implementation.
- Focused on refining and expanding functionalities for low-level programming in embedded systems.

Raspberry Pi-Based Weather Monitoring System

Technology Used: Raspberry Pi, Microsoft Azure Cloud, Sensor Integration

- Designed a system to collect real-time weather data from sensors and transmit it to Azure Cloud.
- Programmed Raspberry Pi for efficient sensor data processing and seamless cloud integration.
- Demonstrated expertise in connecting edge devices to cloud platforms for scalable IoT solutions.

Key Achievements

- Mentored 20+ peers and juniors in IoT projects, improving project success rates by 25%
- Currently leading an initiative to automate college facilities using IoT frameworks to reduce manual intervention and enhance operational efficiency.

Additional Information

Education & Certificates

KL University (Vijayawada)
Bachelor of Technology (B.Tech) in Internet of Things (IOT)
2022 – Present

Sri Chaitanya Junior College
Intermediate Education, MPC (Math's, Physics, Chemistry)
2020 – 2022

Sri Chaitanya School
SSC Education
2020

- **Started coding:** 3 years ago, still Struggling to make the device work properly as expected
- **Current love:** keep doing projects which is integrated with ethe both software and hardware
- **Dream setup:** Starting an IOT based solution company and letting know the world how to work with IOT devices
- **Life Motto:** Getting full experience with the domain of the IOT and embedded devices

Hobbies

- Building and repairing devices
- Exploring new and emerging technologies in IoT and embedded systems
- Gaming

Declaration

I hereby declare that all the information provided above is true and correct to the best of my knowledge.