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ranit-pradhan

Ranit Pradhan

Summary

Looking for a position in the field of Embedded Systems and Hardware security development where I can utilize my skills to work towards personal and professional development and contribute towards the prosperity of the organization. I am highly motivated and eager to learn new things.

Education

2019-2023 Ongoing **B.Tech in Electrical and Computer Engineering**, *Amrita Vishwa Vidyapeetham*, Kollam, Kerala, India.
CGPA: 8.12/10

2019 **Belda Gangadhar Academy**, Paschim Medinipur, W.B., India.
Percentage: 78.93%

2017 **Jankapur High School(H.S)**,), Paschim Medinipur, W.B., India.
Percentage: 86.14%

Experience

December 2020 to Present **Member at Team bi0s**, *Amrita School of Engineering*.
- Participated in various CTFs like Mitre, CSAW, Defcon etc.
- Currently working on Embedded Security and Linux systems.
- Mentoring first and second year student members.

Page link: `https://bi0s.in/hardware.html`

November 2019 to January 2021 **Member at IEEE, Kerala Section**, *Amrita School of Engineering*.
- Participated in many Hackathons, Conferences, Webinars.
- Undergone a Machine Learning workshop sponsored by **Megara Robotics Pvt. Ltd**.

Projects

October 2021 **Vaccine Verification using RFID-based secure authentication.**.
The aim of the project was to use RFID technology in the fight against Covid-19. By following the process we can verify one is fully vaccinated with a good health or not, besides it we also tried to include contactless temperature verification.

July 2020 **An Ultra-Portable Vis-NIR Spectrometer for Chemometric Applications**.
On-site material inspection and quality analysis of food and agricultural produce, which require portable sensing systems. A mini spectrometer is used for the measurements and the spectra data is analyzed using machine learning.

November 2021 **Accident Alert in Mist**.
STM32F103C4 microcontroller application for accident avoidance of vehicles in foggy areas. Simulation platforms like Proteus, STMCubeMX, ARM-Keil are used.

May 2021 **Staircase LED using PIC**.
Simple staircase LED controlling using **PIC16F877a** microcontroller. Simulation platforms - MPLAB and Proteus are used.

September 2020 **COVID-19 Alert Distance**.
This project is related to the recent pandemic situation of COVID-19. A replica model to alert human to keep safe distance from each other.

May 2021 **Staircase LED using PIC**.
Simple staircase LED controlling using **PIC16F877a** microcontroller. Simulation platforms - MPLAB and Proteus are used.

July 2020 **A survey on state-of-the-art light weight, low energy operating system and technologies for wearable devices**.
The primary objective of this project was to describe and explain about the light weight operating system, to know the characteristics, advantages and disadvantages of light weight OS. We concentrated on various kinds of Light weight, Low energy operating systems and their applications that are used in this era.

January 2020 **AC to 12V DC Converter**.
The primary objective of this project was to glow a 12V LED strip using AC to DC converter.

Courses and Mooc

May 2020 **The Arduino Platform and C Programming**.
Issuing Organization: *University of California,Irvine.*

April 2020 **Working with JSON Data**.
Issuing Organization: *Real Python.*

August 2020 **Data Visualization with Python**.
Issuing Organization: *Real Python* .

July 2021 **The Complete Front-End Web Development Course.**.
Issuing Organization: *Udemy* .

Volunteer

January 2015 **Science Exhibition Project-1**.
Contributed in a model explanation of an Automated railway alarming system if there is any fault on the train-line, on the Platinum Jubilee celebration of Jankapur High School(H.S)

January 2019 **Science Exhibition Project-2**.
Contributed in a model explanation of an Automated water level alarming system, on the Centenary celebration of Belda Gangadhar Academy

December 2019 **Crowd Control Volunteer**.
Volunteered for crowd control in our Chancellor, Mata Amritanandamayi Devi's Birthday celebration.

March 2022 **Organizing Holi Celebration**.
Core team member for the arrangements of Amrita University Holi Celebration 2022.

Internships and Workshops

January 2020 **Hacktoberfest 2019**.
Attended conference of Digital Ocean,an introduction to Git and GitHub. It is a two days workshop taken by amfoss student club every year.

October 2020 **Machine learning Internship, IEEE**.
An online internship based on Data Science and ML.
Certificate Link:
`https://raw.githubusercontent.com/RanitPradhan/Certificates/main/Certificate_Me.jpg`

Achievements

October 2021 **Runner-Up in IEEE RFID-TA 2021 Challenge**.
Secured second place in this national ideathon with the topic **Vaccine Verification using RFID-based secure authentication**.

September 2017 **Paschim Banga Vigyan Mancha**.
Paschim Banga Vigyan Mancha award in 2009 and 2017 for getting 5th position in our district and 2nd position in my block respectively.

Coursework

Core Courses IoT, Embedded Systems, Data Structure, Microcontrollers and Applications, Electric Machines, Digital Signal Processing.

Lab Courses Microcontroller and Architecture, Data Structure, Power Electronics, Python Object Oriented Programming, Digital Manufacturing.

Languages

English	Full Professional Proficiency
Hindi	Full Professional Proficiency
Bengali	Full Professional Proficiency
Odia	Full Communication Proficiency

Skills

Languages	Python, C, C++, SQL
Core	Embedded C, AVR, Networking, Robotics
WebD	HTML,CSS,JS
VCS	Git, Jupyter Notebook
Tools	○ **Software** STM CubeMx, MPLAB, Arduino IDE, VS Code, MATLAB, LT Spice, Proteus, ARM-Keil, Eagle CAD ○ **Hardware** Arduino UNO, ESP(8266,32), Tiva C, RaspberryPi-4, Logic Analyzer, Sensors.
Soft Skills	Team management, Leadership, Mentorship

Interests

Technical	Firmware, IoT, Embedded Systems, Robotics, Machine Learning, Web Development, Contributing to Open Source
Hobbies	Travelling, Cricket

Personal Details

DOB	3rd August, 2000
Address	Amritapuri, Kollam, Kerala, India
Status	Student