

Ranit Pradhan

West Bengal, India
+91 9382615195
pradhanranit0019@gmail.com
RanitPradhan.github.io
ranit-pradhan

Summary

Looking for a position in the field of Embedded Systems and IoT 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 **B.Tech in Electrical and Computer Engineering**, Amrita Vishwa Vidyapeetham, Kollam, Kerala, India.
Ongoing CGPA: 7.8/10
- 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

- July 2023 to Present **Associate IoT Security Researcher**, Payatu.
 - Wireless Security (BLE, Wi-Fi, ZigBee)
 - Exploring in SDR
 - Tools- ExpLLoT, Alpha AWUS036AC, ZigBee Auditor, GnuRadio.**Page link:** <https://payatu.com>
- January 2023 to June 2023 **IoT Hardware Security Research Intern**, Payatu.
 - Hardware Protocols(UART,SPI,I2C,JTAG), Wireless Protocols(Bluetooth, Wi-Fi, ZigBee)
 - Tools- ExpLLoT Nano, Diva board, ZigBee Auditor.**Page link:** <https://payatu.com>
- June 2022 to July 2022 **Summer Intern at CeNSE**, Indian Institute of Science.
 - Pressure sensor data acquisition and Visualization using IoT.
 - Tools- Raspberry Pi 2B, ADS115, MCP3553, InfluxDB, Grafana.**Page link:** <http://www.cense.iisc.ac.in>
- June 2022 to July 2022 **IoT Internship**, Emertxe Information Technologies.
 - Foundational Skills – C & Linux.
 - IoT Skills – IoT Architecture, IoT Cloud Platform, IoT Solution Integration
 - Embedded Skills – Micro-controller programming
 - Tools – Debuggers, Cross-compilers, Editors and many more**Page link:** <https://www.emertxe.com>
- December 2020 to December 2022 **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:** <http://bi0shardware.com>
- November 2019 to January 2021 **Member at IEEE, Kerala Section**, Amrita School of Engineering.
 - Participated in IEEE Hackathons, Conferences, Webinars.
 - Undergone a Machine Learning workshop sponsored by **Megara Robotics Pvt. Ltd.****Certificate link:** https://raw.githubusercontent.com/RanitPradhan/Certificates/main/Certificate_Me.jpg

Projects

- July 2022 **Real-Time Monitoring of CeNSE Developed MEMS Pressure Sensor.**
Data acquisition and real-time monitoring of a differential pressure sensor, manufactured in MEMS Packaging Lab of IISc.
- 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.
- 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

- October 2019 **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

- November 2021 **CSAW'21 Embedded Security Challenge Finalist India.**
Finalist for CSAW'21 ESC, India. Mostly challenges were based on Side Channel Attacks and Chipwhisperer Nano was used for the analysis.
- 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, Microcontrollers and Applications, Electric Machines, Digital Electronics, Microelectronic Circuits
- 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
- VCS Git, Jupyter Notebook
- Tools
 - **Software** STM CubeMx, MPLAB, Arduino IDE, VS Code, MATLAB, LT Spice, Proteus, ARM-Keil, Logisim, Eagle CAD
 - **Hardware** Arduino UNO, ESP(8266,32), Tiva C, RaspberryPi, Logic Analyzer, Sensors.
- Soft Skills Team management, Leadership, Mentorship

Interests

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

Personal Details

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