

Anikait Panigrahi

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EDUCATION

B.Tech in Electronics and Computer Engineering | CGPA: 9.17

Oct. 2022 – Present (S7)

Amrita Vishwa Vidyapeetham, Amritapuri

Kerala, IN

CERTIFICATIONS

Zero 2 Automated by 0verfl0w: For enhancing skills in Reverse Engineering and Malware Analysis.

EXPERIENCE

bi0sHardware - Cyber Security Club | Team Lead

Nov. 2022 – Present

- **Mentoring juniors** and building expertise in **reverse engineering** and **firmware analysis**.
- **Active CTF participant** with team bi0s, contributing year-round in competitions and training initiatives.

Traboda Cyber Labs | Security Research Intern

Jan. 2025 – Jun. 2025

- Designed and implemented a **fuzzing framework** to identify vulnerabilities in OT Networks.
- Identified **3 IoT vulnerabilities** through **N-day research** and **developed exploits**.
- Collaborated with the **security research team** to triage findings, and propose mitigations.

PROJECTS

R0Fuzz | Security Testing and Fuzzing

Dec. 2024 – Mar. 2025

- Contributing in the development of R0Fuzz, a **fuzzing framework** for **OT-specific protocols**.
- R0fuzz aims to find **security flaws** in the **network protocols** like **MODBUS**, **DNP3**, etc.

Smart Helmet | ML-based Rider Safety Helmet

Nov. 2024 – Dec. 2024

- Developed a smart helmet using **ESP32**, **FreeRTOS** and **machine learning** to enhance rider safety.
- Features include **real-time location tracking**, **alcohol detection**, **heart rate monitoring**, and a live camera feed for **accident prevention** using **depth sensing** and vehicle classification models.

International Cybersecurity Challenge 2024 | Hardware CTF Badge

Oct. 2024 – Nov. 2024

- Engineered a Hardware CTF Badge utilizing the **ESP32-S3 microcontroller**. Designed and implemented **four unique challenges** integrated into the **custom PCB**.
- Successfully organized and conducted the International Cybersecurity Hardware Challenge in **Chile**.

Firefly | Automated Firmware Analysis Toolkit

Feb. 2024 – Jul. 2024

- Comprehensive firmware analysis toolkit that is used to **identify vulnerabilities** in IoT firmwares through **code inspection** and **pattern matching**.
- **100% more efficient** than EMBA, a tool used for analyzing the firmware of embedded devices.

HONORS AND ACHIEVEMENTS

- Speaker at BlackHat Asia Conference – Apr. 2025
- Fifth Cash Prize Winner at FOSS Hack India – Feb. 2025
- Represented India at Global Cyber Security (GCC) 2024 in Thailand – Feb. 2024
- Awarded the title of Cyber Volunteer by MHA at a G20 Conference on Cyber Crime – Jul. 2023

VOLUNTEER EXPERIENCE

NCIIPC-AICTE Pentathlon | National Capture the Flag

Apr. 2024, Apr. 2025

Contributed to organizing a nationwide CTF focused on OT Security.

Intro to Hardware Hacking | Workshop on Hardware Security

Jan. 2024

Conducted hands-on training sessions on hardware vulnerabilities and basics of hardware security.

SKILLS

Programming Languages: Python, C, C++, Assembly (x86, ARM), Bash

Technical Skills: Reverse Engineering, Firmware Analysis and Development, RTOS, Database Management, Vulnerability Assessment, PCB Design, Embedded Systems Design and Development

Software Packages: IDA Pro, Ghidra, ESP-IDF, Cadence, MATLAB, Keil, Proteus

Operating Systems: Windows, Linux