

VULNERABILITY RESEARCH

Motivated Computer Science and Engineering 3rd year student and skilled information security analyst and researcher with experience in Vulnerability Research, Exploit Development, Reverse Engineering, and Cyber Training Development. I aspire to be a skilled Vulnerability Researcher with interests in reverse engineering and binary exploitation on operating systems, embedded hardware devices and low-level softwares.

EDUCATION

ENGINEERING

Bachelor of Engineering, Computer Science
Bangalore Institute of Technology | 2023 - 2025 (Expected)

DIPLOMA

Diploma in Computer Science & Engg
Sri Jayachamrajendra (Govt.) Polytechnic | 2019 - 2022

PROFESSIONAL EXPERIENCE

NDAY VULNERABILITY RESEARCH

Exodus Intelligence | Aug 17 2023 - Nov 17 2023

- Compiled metadata reports for CVEs sourced from the CISA KEV (Known Exploited Vulnerabilities) list.
- Conducted in-depth analysis on multiple NDay bugs, producing comprehensive root cause analysis reports. Included reliable proof-of-concept or exploit details along with corresponding mitigation guidance to facilitate effective defensive measures implementation.
- Overall completed 76 CISA KEV reports during the internship including few comprehensive technical vulnerability analysis report.

INSTRUCTIONAL DESIGNER

Hackdev Technology Pvt. Ltd. | Feb 17 2022 - Mar 17 2022

- Created and implemented CTF labs for system security as an instructional designer, enabling students to grasp the consequences of vulnerabilities in insecure code.
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ACHIVEMENTS

International

- Finalist in DEFCON CTF 2024 with the Friendly Maltese Citizens team.
- Achieved multiple victories in CTF competitions with Team Project Sekai, including RITSEC CTF 2023, WolvCTF 2023, UTCTF 2023, BRICS+ CTF 2023 and many more.
- Top #120 position worldwide out of 30,000+ players and holding the #2 position in India on pwnable.tw.

- Secured **3rd** position and representing my university at the prestigious **C2C CTF 2023** finals held at **Keio University, Tokyo, Japan**.

Domestic

- Secured **1st** place in **DSCI EY CTF Delhi 2023**.
 - Secured **2nd** place in **NullCon Goa 2023**.
 - Secured an impressive **2nd** position in **Embedded Security CTF 2022** conducted at **IIT Madras India**, highlighting proficiency in the field of embedded security and cybersecurity.
 - Secured an outstanding **4th** position in the prestigious **InCTF Nationals 2021**, ranking among the top contenders nationwide.
 - Secured an outstanding **4th** position in the prestigious **InCTF Juniors 2020**, ranking among the top contenders nationwide.
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PROJECTS

ROOTKIT

Personal Project | 2023

- Rootkit is a personal project I developed as a custom Python module for **binary analysis, exploitation, and automation**.
- It serves as a powerful tool that I use to tackle pwn challenges in Capture The Flag (CTF) competitions.
- **Programming Languages:** Python
- **Live Demo:** [Link to Live Demo](#)

MY BLOG

Personal Project | 2023

- The Website serves as a platform for sharing research findings, vulnerability analysis, exploit development techniques, and writeups for Capture The Flag (CTF) challenges.
- **Technologies Used:** React, Next.js, MDX (Markdown with JSX), Tailwind CSS, Git (Version Control)
- **Code Repository:** [Link to GitHub Repository](#)

THE RED WHEELBARROW

Personal Project | 2023

- Developed and implemented an essential **Discord bot** catering specifically to CTF players, providing real-time chat support, logging, moderation of CTF events, music playback, and interactive games.
- **Programming Languages:** Python

LANBLAST

Personal Project | 2019

- The LAN System Controller is a centralized system designed to manage and operate an entire office network connected through a Local Area Network (LAN).
 - It serves as a **central communication hub** to establish connections with clients and execute commands. The **C2 server** acts as a powerful tool for managing and controlling a network of distributed clients.
 - **Programming Languages:** Bash, Powershell
 - **Live Demo:** [Link to Live Demo](#)
 - **Code Repository:** [Link to GitHub Repository](#)
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POSITIONS & RESPONSIBILITIES

- Capture The Flag (CTF) competitions with [Project Sekai](#) since 2023 securing **#11** position worldwide and served as the team leader of [zh3r0](#) aka [1/0](#) since 2020 securing **#2** position in India.
 - Authored challenges for [SekaiCTF](#) in 2022. More about the challenge [here](#).
 - Hosted international CTF event [zh3r0 CTF](#) during the year 2021 and 2020.
 - Served as the **Event Coordinator** for the state-level coding competition at TechBiz college fest in 2019, successfully organizing and managing the event.
 - Won the best writeup prize for [stuff](#) challenge LACTF 23.
 - Won the best writeup prize for [minecraft](#) challenge Imaginary CTF 23.
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TECHNICAL SKILLS

- **Programming:** Python, C, bash, java, x86_64 ASM
 - **Development Tools:** Git, GitHub, Docker, Sublime Text, VS Code
 - **Exploit Development:** IDA, Ghidra, Binary Ninja, GDB, PwnDBG
 - **Detection:** snort
 - **Exploitation targets:** Linux (Advanced), Windows (Beginner), v8 (Beginner), Embedded architectures (Beginner).
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RESEARCH INTEREST

- Embedded Device Exploitation
 - Linux Kernel Exploitation
 - Windows Exploitation
 - Automation & Scripting
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HOBBIES

- Travelling
- Vulnerability Research
- Content writer