

# GSV Prharsha

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## Summary

Security researcher with hands-on experience in malware analysis, reverse engineering, and threat detection, currently pursuing a Master's in Cybersecurity at VIT Bhopal University. Project Manager for Oshin OS, a Linux-based system development initiative focused on building resilient computing environments. Presented international research on the misuse of large language models (LLMs) for malware generation, exposing emerging risks in the threat landscape. Passionate about advancing threat intelligence, polymorphic malware detection, and secure system design.

## Education

### VIT Bhopal University

Bhopal, India

INTEGRATED M.TECH IN COMPUTER SCIENCE ENGINEERING WITH SPECIALIZATION IN CYBER SECURITY

Sep. 2020 - Present

- **Major:** Computer Science, **Minor:** Cyber Security and Digital Forensics
- **Subjects:** Operating Systems, Digital Forensics, Data Structures, JAVA, Theory of Computation, Compiler Design, Cloud Security, Computer Networks, Forensic Chemistry, Data Privacy, DBMS, Cyber Crimes and Laws
- **Master Thesis (Currently Pursuing):** Polymorphic Malware Detection through the use of Genetic Clustering

## Skill Set

### PROGRAMMING LANGUAGES

- **C, C++, Python, Bash** Intermediate to Advanced Proficiency
- **Shell Scripting** Intermediate Proficiency
- **Markdown, LaTeX** Advanced Proficiency
- **HTML, CSS, JavaScript** Intermediate Proficiency

### TECHNOLOGIES & TOOLS

- **Operating Systems & Internals** Windows Internals, Linux Kernel (Arch, Debian), Flare VM, Remnux VM, Windows, Kali
- **Reverse Engineering & Malware Analysis Tools** Ghidra, IDA Pro (familiar), radare2, dex2jar, apktool, HxD, TrIDNet, Process Monitor, Strings, Procmon
- **Threat Intelligence & Frameworks** MITRE ATT&CK, YARA Rules (basic), VirusTotal, Shodan, Hybrid Analysis
- **Network & Packet Analysis** Wireshark, Nmap, Zenmap, Bettercap
- **Exploitation & Post-Exploitation** Metasploit, Empire C2, Veil
- **Vulnerability Scanning** OpenVAS GM, Nessus, Nikto
- **Password Cracking** JohnTheRipper, HashCat, Hydra, Crunch
- **Other Tools & Platforms** SEToolkit, GoPhish, Docker, Git, AWS, Wordpress

## Work Experience

### EMotorad

Bengaluru, India

EXECUTIVE TO THE CPTO – INTERN

Nov. 2024 – Dec. 2024

- Supported the CPTO in the successful launch of a new prototype E-Bike.
- Assisted with day-to-day executive tasks and coordination across departments.
- Collaborated with the business team in Pune to ensure timely delivery of beta controllers for customer testing.
- Contributed ideas to the tech team for integrating innovative technologies addressing key problem statements.

### Openinapp

Bengaluru, India

FOUNDER'S OFFICE INTERN

Jul. 2024 – Oct. 2024

- Onboarded around 200 creators with social media followings ranging from 5k to 1 Million+, increasing the app's user engagement and visibility.
- Contributed to an average monthly revenue increase of ₹20,000 through creator partnerships, significantly boosting user acquisition and retention.
- Strategically collaborated with creators, driving daily sign-ups on the app by expanding our reach within their fanbase and increasing brand awareness.

## SECURE - Center of Excellence

Bhopal, India

OS DEVELOPER AND RESEARCH INTERN

Nov. 2021 - Oct. 2023

- Led the development of Oshin OS, a Linux-based secure operating system, as Project Manager overseeing a 50-member team.
- Reverse engineered Linux kernel components and integrated secure module configurations to harden the system against malware.
- Conducted static and dynamic malware analysis to understand payload behavior, persistence mechanisms, and evasion techniques.
- Designed and implemented mitigation strategies focused on digital resilience and system integrity.

## Research & Publications

### GPT Based Malware: Unveiling Vulnerabilities and Creating a Way Forward in Digital Space

Xi'an, China

SHANDILYA, SHISHIR KUMAR; GSV, PRHARSHA; DATTA, AGNI; CHOUDHARY, GAURAV; HOONYONG, PARK; ILSUN, YOU

Oct, 2023

- Paper showcasing how LLMs are being exploited by threat actors, **DoI:** 10.1109/DSPP58763.2023.10404552

## Projects

### Loki - Identity Generator for OSINT Investigators

Remote

CREATOR & MAINTAINER

Jan. 2025 - Present

- Built an automated CLI tool for generating untraceable sock puppet identities for OSINT investigators and cybersecurity professionals.
- Implemented customizable identity generation including names, professions, nationalities, and AI-generated profile images.
- Supports multiple output formats (TXT, JSON, CSV) and cross-platform compatibility (Linux, macOS, Windows).
- **Achieved 75 stars** on GitHub and growing through organic developer interest and community sharing.
- Actively maintained with goals to add automated social media creation and advanced identity customization.
- **GitHub Link:** <https://github.com/malwaredojo/loki>

### Oshin Operating System

Bhopal, India

PROJECT MANAGER

Nov. 2021 - Oct. 2023

- Implemented an easy-to-use operating system utilising Arch Linux and many other open-source projects.
- Contributed to the generation of the ISO image of the operating system, incorporating the essential packages required for both prototype testing and the eventual final release.
- Contributed to the development and customization of the core system packages by compiling packages from source, implementing modifications, and testing for functionality and performance enhancements.
- **Link:** <https://oshinos.com/contributors/>

### Research on DNA-based Cryptographic Techniques

Bhopal, India

SECURITY RESEARCHER

Feb 2023

- Explored nature-inspired computing models to develop a robust symmetric encryption method using DNA sequencing logic.
- Proposed a novel three-phase DNA encryption algorithm for secure data transmission, with applications in malware obfuscation detection.
- Analyzed traditional vs. unconventional cryptographic techniques, identifying their resilience against modern threat vectors.
- **Link:** Research PDF

## Academic Visits

### National University of Singapore (NUS)

Singapore

DEPARTMENT OF ELECTRICAL & COMPUTING ENGINEERING

May, 2023

- Visited the Department of Electrical & Computing Engineering and got to interact with the faculty of the department
- Engaged in discussions with NUS faculty and researchers, during which both parties shared their ongoing work.
- Explored potential collaboration opportunities and identified areas of mutual interest, aiming to establish collaborative research projects that contribute to advancements in cybersecurity through innovative malware analysis methodologies.

### INTERPOL Global Innovations Centre

Singapore

DIGITAL FORENSICS LABORATORY

May, 2023

- Visited the Interpol Innovation Centre and got to understand the various real-world technologies used in investigations
- The visit focused on responsible AI, digital forensics, and various sectors of forensic investigation including drones, automotive systems, and mobile devices, with a particular emphasis on malware detection and analysis.
- Learned about Interpol's strategic efforts in combating cybercrime and organized crime globally, contributing to a digitally secure environment.

## Talks & Lectures

## 1st National Conference on Emerging Technologies at CAPT Bhopal

Bhopal, India

MITIGATING DIGITAL THREATS FACED BY MINORS VIA IMPLEMENTATION OF OSHIN OS

Feb. 2023

- Delivered a comprehensive overview of the multifaceted threats that minors encounter in the digital era and how they can be mitigated using Oshin OS.
- Illustrated existing solutions and their limitations in addressing these issues, providing a comprehensive overview of the challenges faced in the cyber realm.
- Introduced Oshin OS as a solution, highlighting its innovative approach to tackling cyberbullying and cybercrime effectively.

## The International Conference on Data Security and Privacy Protection

Xi'an, China

GPT BASED MALWARE: UNVEILING VULNERABILITIES AND WAY FORWARD IN DIGITAL SPACE

Oct. 2023

- Delivered a presentation on the review paper that showed the misuse of ChatGPT for creating malware.
- Highlighted the misuse of GPT and other large language models (LLMs) in crafting malicious software, underscoring the emerging threat posed by this phenomenon.
- Outlined the need for proactive measures to mitigate the risks associated with GPT-based malware, emphasizing the importance of collaboration between researchers, industry stakeholders, and policymakers in addressing this evolving threat landscape.

## Languages

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- **English** Professional Proficiency
- **Telugu** Bilingual Proficiency
- **Hindi** Professional Proficiency
- **Japanese** Beginner Proficiency

## Extracurricular Activity

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### VIT Bhopal Cyber Warriors Club

Bhopal, India

FOUNDER

Sep. 2020 - Present

- Founded and led the club, overseeing club operations, organizing events, and coordinating with team members to achieve club objectives.
- Developed in-depth knowledge of cybersecurity concepts, such as ethical hacking, network security, and risk assessment.
- Successfully organized and executed 10+ cybersecurity events and activities, including workshops, seminars, competitions, and training sessions

### Principles of Digital forensics - VIT Bhopal University

Bhopal, India

TEACHING ASSISTANT

2023

- Prepared lecture materials, facilitated and supported class activities, and developed course assessments.
- Conducted a real life simulation to teach various concepts of the course.

### Mastercard Cybersecurity virtual experience program on Forge

Bhopal, India

VOLUNTEER

2023

- Completed a job simulation where I served as an analyst on Mastercard's Security Awareness Team
- Helped identify and report security threats such as phishing
- Analyzed and identified which areas of the business needed more robust security training and implemented training courses and procedures for those teams
- **Link:** Certificate