

Nihal Awasthi

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Technical Skills

Cybersecurity: Penetration Testing (Burp Suite, Metasploit), Network Security, NIST Framework

Languages: Python, C, C++, Java, PowerShell, Bash

Web Development: Django, Flask, REST APIs, ReactJS, HTML/CSS/JavaScript

Cloud, DevOps & Tools: AWS EC2, GitHub Actions, PostgreSQL, MySQL, Wireshark, Nmap, Git, AI Tools

Experience

MyResQR.life	Aug 2024 – May 2025
<i>Software Developer & Project Manager (Hybrid)</i>	Bangalore, India
<ul style="list-style-type: none">Developed and deployed scalable backend services using Django on AWS EC2 (Ubuntu + Nginx), achieving 90% uptime and migrating 5,000+ legacy users to the new system.Led a team of 3 members, delegating tasks to streamline delivery cycles and reduce production bugs by 20%.	
Outlier	Dec 2024 – Present
<i>AI Data Annotator & Model Reviewer</i>	(Freelance, Remote)
<ul style="list-style-type: none">Reviewed and fine-tuned 10+ AI/LLM projects across 5 domains, contributing over 60+ work hours to model development.Delivered high-quality feedbacks on 200+ AI completions, supporting RLHF workflows and enhancing model alignment.	

Projects

ZynqOS: Web-Based Operating System <i>JavaScript, Systems Design, Cryptography, WebOS</i>	[Live Platform]
<ul style="list-style-type: none">ZynqOS is an accumulation of my major projects, implemented as a web-based operating system with core OS utilities including ZynqPad (custom file manager + code editor), terminal, and a Wasmer application runtime. The projects integrated as native components in ZynqOS are :Phablet: Custom hashing and encryption algorithm combining AES-256 and RSA, enabling secure data handling and cryptographic operations within the OS environment.Wednesday: Personal desktop chat assistant enabling local automation and contextual user interaction.PhantomSurf: Privacy-focused browser with built-in, toggleable VPN and TOR routing for anonymous web access. Added as a native application in WebOSAigesX: Inbuilt vulnerability scanner designed for security assessment and vulnerability detection within the OS environment.Applied system-level design principles derived from building ShadeOS (64-bit kernel in C/Rust) to architect process isolation, modular services, and secure runtime boundaries in ZynqOS.	

Publications

Journals

- "Phablet Hashing Algorithm," *Chapter 123*, ISBN: 978-3-031-87583-0, Springer, 2026
- "Data Poisoning in Large Language Models," *Chapter 168*, ISBN: 978-3-031-87583-0, Springer, 2026

Conference Proceedings

- "Phablet Encryption Algorithm," *International Conference on Data, Computation and Communication*, IEEE 2024
- "Hybrid Threat Vectors in Language Models," *AIoT - ICloTCT 2025*, Meteor Springer – [To be Published]

Education

Vellore Institute of Technology, Bhopal, India

Integrated M.Tech - Computer Science Engineering with Specialization in Cyber Security

Expected 2027

Cumulative GPA: 8.09

Achievements & Extracurricular Activities

- Project Manager, Operation Smile Foundation (Mar-Dec 2024): Engineered a responsive donation platform, boosting engagement 60%, donations 25%, and performance score to 98 with 40% faster load times .
- Ranked #47 globally out of 1M+ participants in Advent of Code 2024, placing in the Top 0.005% worldwide.
- Led 3 teams of 15 members in the Cyber Warrior Club, organizing 8 workshops to enhance cybersecurity skills.
- Judged two 36-hour hackathons hosted by Eureka Club and Cyber Warrior Club.