Amir Zakaria

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Skilled in cybersecurity, IoT, and AI-driven hardware projects. Experienced in ethical hacking, penetration testing, and full-stack development. Proven track record with multiple hackathon wins and expertise in cloud security, reverse engineering, and system hardening. Passionate about driving innovation and securing technologies.

WORK EXPERIENCE

Freelancer - "Web Dev, Security, Hardware"
June 2021 - Present

I provide security services for websites, applications, and systems, along with complete web development solutions, including portfolio, e-commerce, blog, and educational websites. I also offer tech tutoring, hardware product development, and computer repair services - honorary basis.

Dataviv Technologies - "IoT Engineering Intern"
June 2024 - December 2024

Developed web based control mechanism for controlling devices on local network. Built an automated actuator with wireless control mechanism. Built a humanoid teacher with AI capabilities.

CoE, VJTI - "Undergrad Security Research Scholar"
January 2024 - May 2024

Conducted research and development in offensive security, focusing on drone security, exploit development, and system hardening for both hardware and software systems.

RESEARCH PROJECTS

WebScanner - Web Vulnerability Scanner
AUGUST 2023 - SEPTEMBER 2023

WebScanner is a powerful web app designed to simplify security assessments. It uses existing security tools to scan for vulnerabilities in websites on specific parameters. It generates a report of the vulnerabilities and also a report for possible fixes.
Technologies Used: Python, Flask, HTML5, CSS3, JS, NLP, Security Tools (nikto, wpscan, sqlmap, sublist3r, nmap, whois).

IronKey- Automated System Authenticator
AUGUST 2024 - PRESENT

Developed a USB based microcontroller programmed for secure authentication to system access / file access by systems hardware metadata's integrity checks.
Technologies Used: C++, Python, Shell, Powershell, Arduino.

VisionAssist - Assistive tech for blind
PROTOTYPE READY 🔗
MARCH 2024 - MAY 2024

Enabled real-time identification of text (OCR), objects, and obstacles with audio feedback. Hardware included Raspberry Pi 4, USB camera, custom audio system, and custom battery backup. Empowered users to navigate freely by identifying their surroundings effortlessly.
Technologies Used: Python, Tensorflow, Gemini, Shell, GCP.

AI Board - AI based Smartboard - National Award
PROTOTYPE READY 🔗
SEPTEMBER 2023 - JANUARY 2024

Developed a cutting-edge AI Smartboard with x86 and ARM-based variants. Features a self-made 43-inch IR touch display, custom battery backup, audio amplifier. Multi-OS support, comes with an electronic stylus for enhanced interaction. Software include: Lecture and notes summarization, Multilingual support, Hybrid teaching modes, Custom writing interface, Custom AI Classroom.
Technologies Used: React, Node, Express, Python, Arduino, PySerial, HTML5, CSS3, Whisper, Gemini, Shell, GCP, GIT

LANGUAGES
English, Hindi, Marathi, Urdu, Arabic, French

SECURITY TOOLS
OS: Kali Linux, Parrot OS, Qubes OS
Network Analysis: Wireshark, TcpDump, NetFLow, Nmap, Zmap, Ettercap, Masscan
Encryption & Cryptography: OpenSSL, SetKey, Hashcat, VeraCrypt,
Intrusion Detection: Zeek, Snort, OSSEC, Sguil
Password Cracking: Burp Suite, Hydra, Medusa
Web Security: SQLmap, OWASP ZAP, Wapiti,
Defensive Security: Velociraptor, Suricata, Semgrep

SKILLS
PROGRAMMING:- C, C++, Python, Javascript, PHP, MATLAB, Ruby, Powershell,

SECURITY ENGINEERING:- Experience in configuring and managing firewalls, and endpoint security. Knowledge of cloud security (AWS, Azure, Google Cloud), SIEM platforms (Splunk, ArcSight) for monitoring and logging.

THREAT RESEARCH:- Forensic tools (EnCase, FTK), Reverse engineering (Ghidra, IDA Pro), Experience with sandboxing tools (Cuckoo Sandbox). Knowledge of attacker techniques, tactics, and procedures (TTPs) from frameworks like MITRE ATT&CK.

SECURITY INTELLIGENCE:- Memory and network forensics (Volatility, Wireshark). Ability to trace insider threats and data breaches. Scripting and programming (Python, PowerShell) to develop custom detection and alerting tools.

SECURITY:-Cybersecurity, Malware Analysis, Vulnerability Analysis, SOC Analysis, System Security, Reverse Engineering, Application Security, Hardware Security.

HACKING:- Ethical Hacking, Hardware Hacking, Pentesting, Forensics, Data Recovery, Phishing, Exploit Development.

NETWORKING:- Network Security, TCP/IP Protocols, DHCP, DNS, Network Virtualization (Cisco Packet Tracer), Wireless Networking.

Cloud:- Google Cloud (DNS Configuration, VM's, Networking, VCP, Load balancing, IAM, Vision Engine), AWS (EC2, S3, Lambda, IAM), Azure

ACHIEVEMENTS
- 1st place: UNESCO India Africa Hackathon 2022- Software Edition - International level
- 1st place: Smart India Hackathon 2022, 2023, 2024 - Hardware Edition - National Level
- Seed Grant - Ministry of Education - National Level
- Won:- 1. PICT - Flagship Technical Event, 2. VJTI - Startup Nova, 3. ICT E-Cell Pitch Wars. - Inter-College

EXTRACURRICULAR

Google Developer Student Club - VJTI, "Lead"
July 2023 - June 2024
Selected as the Google Developer Student Club Representative by Google India.

Google Developer Student Club - VJTI, "Cyber Security Lead" - *August 2022 - June 2023*
Conducted workshops on Cyber-Security and Ethical-Hacking, provided guidance in the domain of Cybersecurity.

Google Developer Student Club - VJTI, "Cyber Security Committee" - *January 2022 - August 2022*
Prepared cybersecurity course material and content for understanding cybersecurity.

EDUCATION

Veermata Jijabai Technical Institute *2021- 2025*

B.Tech in Electronics and Telecommunication