TUSHAR BASAK

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OBJECTIVE

Technically adept, detail-oriented, and goal-driven professional with a solid foundation in cybersecurity and risk management. Experienced in identifying vulnerabilities, performing penetration testing, and implementing advanced security measures to protect organizational assets. Proficient in threat analysis, incident response, and compliance monitoring. Skilled in conducting security audits, leveraging SIEM tools, and designing comprehensive defense strategies against evolving cyber threats. Adept at collaborating with cross-functional teams, clients, and stakeholders to meet organizational security objectives. Areas of expertise include:

Vulnerability Assessment and Management | Penetration Testing | Incident Response and Forensics | Threat Intelligence | Security Auditing | Risk Assessment | Network and System Hardening

EXPERIENCE

Cybersecurity Trainee View   May 2024 - Sept 2024
Tata Strive | SAP India   *Anand, Gujarat*

- Conducted hands-on training in **security operations, threat detection, and incident response**.
- Developed a deep understanding of **embedded systems security**, including **firmware analysis, secure boot mechanisms**, and **hardware attack vectors**.
- Assisted in **penetration testing** of embedded systems and **hardware security assessments**.
- Gained experience in **SIEM tools**, **log correlation**, and **secure communication protocols**.
- Performed **threat modeling**, **risk assessment**, and **hardware security analysis** to mitigate security threats.
- Worked with security tools like **Nmap, Burp Suite**, and **Wireshark**.
- Understood cryptographic principles, including **secure key management** and **encryption techniques for embedded devices**.

IT Support Engineer   Jan 2023 - Mar 2024
Secure Life HR Service Private Ltd.   *New Delhi*

- Provided technical support for **Windows and Linux operating systems**, ensuring smooth operations of desktops, laptops, and office peripherals.
- Installed, configured, and maintained **network devices**, including routers, switches, and firewalls.
- Performed troubleshooting for **network connectivity issues**, including **LAN/WAN, DHCP, DNS, and VPN configurations**.
- Managed **endpoint security**, implemented **antivirus solutions**, and ensured compliance with security policies.
- Provided remote troubleshooting support using **RDP, SSH, and ITSM tools**.
- Assisted in hardware maintenance, including upgrades and replacements of computer components.
- Documented technical issues and solutions, improving knowledge base resources for support teams.

TOOLS & SKILLS

- **Embedded Security:** Firmware Analysis, Secure Boot, Secure Coding Practices
- **Hardware Security:** JTAG Debugging, Chip-Off Forensics, Side-Channel Attacks
- **Vulnerability Assessment:** Nessus, OpenVAS, Burp Suite, Nmap, Metasploit
- **Embedded System Testing:** IDA Pro, Ghidra, BusPirate, UART/SPI/I2C sniffing
- **Networking & Protocols:** Firewalls (Cisco, Palo Alto), IDS/IPS, VPN, Packet Analysis (Wireshark), Embedded Protocols (UART, SPI, I2C)
- **Reverse Engineering:** Binary Analysis, Firmware Extraction, Disassembly
- **Programming:** C, Python, Bash, Assembly, Security Automation

EDUCATION

Master of Computer Applications, Manipal University, Jaipur   May 2021 - July 2023
CGPA: 8.92

Bachelor of Science, Swami Vivekananda Subharti University, Meerut   July 2017 - Dec 2019
Percentage: 68.5%

CERTIFICATIONS

- Tata Group - Cybersecurity Analyst Job Simulation   View
  Forage   July 2024

PROJECTS

- **Embedded Device Security Assessment:** Analyzed the security of an IoT device by extracting firmware, reverse engineering binaries using *IDA Pro* and *Ghidra*, and identifying security misconfigurations. Conducted static and dynamic analysis, decrypted stored credentials, and proposed security hardening measures. Exploited UART and JTAG interfaces for debugging and unauthorized access.

- **Completion of 30+ Labs on PortSwigger and 5+ Machines on TryHackMe:** Completed hands-on labs focusing on *web vulnerabilities, API security*, and *binary exploitation*. Gained expertise in vulnerabilities like *SQL Injection, XSS, CSRF, SSRF*, and *memory corruption*. Additionally, solved real-world machines on *TryHackMe*, covering *privilege escalation, secure configurations, and IoT security*.

- **Penetration Testing on Metasploitable2 and IoT Device:** Performed ethical hacking on *Metasploitable2* and an *IoT device*. Conducted reconnaissance using *Nmap*, exploited vulnerabilities with the *Metasploit Framework*, and demonstrated techniques like *buffer overflows, firmware backdooring, and hardware attacks*. Documented the attack methodology and proposed security countermeasures.

LEADERSHIP

City President   Jan 2023 - Dec 2023
BloodConnect Foundation   *Kanpur, UP*

- Spearheaded a 2-tier team of 20+ students, efficiently managed a budget of INR 2.5 LPA, and improved helpline processes for enhanced customer satisfaction.
- Organized 20+ blood donation camps, collecting 1K+ units of blood, impacting 3K+ lives, and inspiring campus community participation.
- Demonstrated leadership, budget management, process improvement, and community engagement.