Het Patel

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Profile

Cybersecurity Engineering student at Iowa State University with 3+ years of hands-on experience in penetration testing, network & system vulnerability analysis, application and web development; currently researching 5G network security.

Education

Iowa State University	Ames, IA, United States
Bachelor of Science in Cyber/Electronic Operations and Warfare	*Aug. 2025 – Present*
Nirma University	Ahmedabad, GJ, India
Bachelor of Science in Computer Science	*Jul. 2023 – Jun. 2025*

Relevant Coursework: Wireless Network Security, Network Protocols and Security, Data Security and Privacy, Adversarial Thinking, Embedded Systems, Computer Organization, Data Structures, Operating Systems, Software Development Practices, Algorithms

Technical Skills

Programming Languages: Bash, Python, Java, HTML, JavaScript, C; basic CSS, SQL, and Assembly

Security Tools, Standards & Frameworks: Nmap, Wireshark, Metasploit, Nessus, Burp Suite, OpenVAS, Splunk, Aircrack-ng, Hashcat, John the Ripper, Netcat, OpenSSL, tcpdump; MITRE ATT&CK, OWASP, NIST CSF, ISO/IEC 27001/27005, Lockheed Martin Cyber Kill Chain

Networking & Protocols: ARA Wireless, srsRAN, O-RAN, TCP/IP, UDP, HTTP, HTTPS, DNS, DHCP, FTP/SFTP, SMTP/IMAP/POP3, VPN, LAN/WAN/WLAN/VLAN, OSPF, RIP, NAT/Port Forwarding, Firewalls, Network Architecture and Troubleshooting, Wireless Security (WEP, WPA, WPA2, WPA3), Cryptography(AES, RSA, SHA, TLS/SSL

Operating Systems & VM/Containers: Windows 10/11, MacOS, Kali Linux, Ubuntu, Redhat Linux, Parrot OS, Tails OS, Raspberry Pi OS, Windows Server; Docker, VMWare, VirtualBox

Other Skills & Tools: Compliance, Forensics, Security Architecture, Zero Trust, Malware Analysis, Vulnerability and Risk Assessment, Penetration Testing, Exploit Development, Security Auditing, Incident Response, SOC Operations, Web Application Security, Threat Intelligence; Git, GitHub, Gitlab, VSCode, Android Studio, Scrum, Unit Testing, Version Control, Yaak, GUI Development (Python), Wordpress

Experience

Engineering Intern	Dec. 2024 – Dec. 2024
Cyberage Technomind	*Himatnagar, GJ, India*

- Managed operating systems, accounting software (SMART MANDLI - a GSC Bank-authorized accounting software in PACS across the State), and peripheral devices. And handled the firm's network architecture.
- Resolved hardware, software, and network issues while developing and debugging programs in C, Java, Python.

IT Support Technician	Jan. 2024 – Jun. 2024
Solanum Packtex	*Himatnagar, GJ, India*

- Provided end-user support by remote support, resolving hardware/software issues, performing installations and configurations, and developing automation scripts to improve system reliability and efficiency.

Projects and Research

LTE Network Emulation and Jamming Attack Analysis | *ARA Wireless, srsRAN, USRP B210, SDR, LTE, Network Security*	Jan. 2026 – Feb. 2026

- Deployed a full 4G LTE network stack (EPC, eNB, UE) using srsRAN containers on the ARA Wireless Living Lab platform and conducted controlled throughput testing using UDP/TCP via iperf.
- Simulated targeted downlink and uplink RF jamming attacks using SDR (USRP B210), analyzed gain vs. packet-loss behavior, evaluated bandwidth efficiency of disruption, and developed a UE-side detection script for real-time jamming identification.

Exploring the Impact of 5G Tech. on Cybersecurity: Attack Vectors, Vulnerabilities, and Countermeasures | *Wiley*	Under Review, Feb. 2026

- Lead co-author — conducted primary research, designed methodology, and co-authored the manuscript.
- Analyzed data, validated results, and presented findings on 5G network security, with implications for cybersecurity, IoT, and next-generation wireless research.

RoboRoute | *Embedded Systems, C, Python, Assembly, UART, Sensors, GUI*   Nov. 2025 – Dec. 2025

- Developed an autonomous CyBot for indoor payload delivery with GUI-based UART/WiFi interaction for start/destination selection.
- Implemented BFS-based navigation with real-time obstacle detection and avoidance using ultrasonic and infrared sensors, along with audible notifications for enhanced usability.

Indian Student Association Club Website | *WordPress, HTML, CSS, JavaScript*   Jan. 2026 – Present

- Designing and developing the official website for the Iowa State University's Indian Student Association Club using WordPress.
- Implemented responsive UI components and dynamic content features using HTML, CSS, and JavaScript to improve accessibility, event promotion, and member engagement.