KAVENNESH BALACHANDAR

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EDUCATION:

Master of Cyber Security | Florida International University, Miami, FL. **August 2024 - April 2026**

Bachelors of Computer Science and Engineering | Sri Krishna College of Engineering and Technology**,** India. **November 2020 – March 2024**

WORK EXPERIENCE:

Student Teaching Assistant | Florida International University, Miami, FL **January 2025 - Present**

- Facilitated weekly labs for 60+ students across 4 cybersecurity courses, integrating live demos and debugging clinics—resulting in a 22% improvement in lab completion and 30% drop in resubmissions.
- Authored 10 exam guides and 15 workshop slide decks aligned with learning objectives, raising course ratings from 3.9 to 4.5/5 and increasing attendance by 28%.
- Delivered 8–10 hours/week of one-on-one mentoring, including study plans and code reviews—boosted pass rates from 82% to 92% and improved evaluation consistency through standardized grading rubrics.

Network Security Intern | INTERN DECCAN SOLUTION, Chennai, India **December 2023 - February 2024**

- Deployed and optimized Cisco Secure Firewall 3100 across 3 office sites, reducing unauthorized access by 40% and cutting MTTR by 35%.
- Consolidated 25+ access rules and standardized TLS configurations, achieving zero audit findings and lowering false positives by 20%.
- Automated 12+ recurring Linux administration tasks using Bash and Python, saving ~6 hours/week and accelerating release prep by 25%.
- Documented detailed runbooks and defined monitoring thresholds for key alerts, improving incident handoffs and first-response time.

PROJECTS:

Home Networking Lab - Personal Project | Salem, Tamil Nadu, India **May 2025 - July 2025**

- Configured remote access using Debian, OpenSSH, and Ngrok, achieving 99.5% tunnel uptime and less than 15s reconnect times, even under low-bandwidth conditions.
- Automated deployment with 6 Systemd units and 3 recovery scripts—reduced setup steps from 8 to 1 and cut deployment time by over 70%.
- Enhanced security and observability by implementing RBAC, SSH key rotation, health monitoring, and secure logging pipelines, improving auditability and access control.

VPN Monitoring & Detection System | Coimbatore, Tamil Nadu**,** India **January 2024 - March 2024**

- Designed a DPI-based VPN detection system with 95% accuracy across 100+ tunnels, reducing policy violations by 60%.
- Implemented 3-layer policy logic and integrated ELK with RBAC and triage runbooks, cutting median response time from 30 to 8 minutes.
- Built a real-time Node.js/Express dashboard with auto-refresh, session monitoring, and error handling for scalable deployment.

Enhanced Image Generator | Coimbatore, Tamil Nadu**,** India **January 2023 - March 2023**

- Processed 1,000+ images with OpenCV, NumPy, and PIL—improving clarity (+5–7 dB PSNR) and F1 score by 3.2 points.
- Automated batch preprocessing to cut prep time by 50% and ensure consistent, scalable, and reusable image pipelines.
- Designed DPI-style heuristics for VPN detection with 95% test accuracy and integrated alerting to cut escalation time from 30 to 8 Min.

PUBLICATION:

VPN Blocker: Detection and Prevention of VPN Tunneling in Enterprise Networks. **February 2024 - March 2024**

- Built a VPN detection framework using Deep Packet Inspection (DPI) to identify encrypted tunnels such as OpenVPN and WireGuard with 90 – 95% accuracy in enterprise traffic.
- Reduced VPN-related policy violations by 50–60% by deploying detection modules with access-control enforcement during pilot tests.
- Integrated the system with an ELK Stack for real-time logging, alerting, and monitoring of 100+ active VPN sessions per day.
- Added RBAC controls, audit logs, and automated incident response steps, cutting incident response time (MTTR) by 30–40% and improving compliance readiness.

CERTIFICATIONS:

- Certified Network Security Practitioner (CNSP) – Merit (**October 2025)**

AWARDS AND EXTRA-CURRICULAR ACTIVITIES:

- Eraksha Cybersecurity Competition (Aug 2023): 1st place nationally for solving real-world cybersecurity challenges.
- Kavach Hackathon (Jun 2023): Qualified at college level for India's leading cybersecurity innovation program.
- Amazon AppSec CTF – NAMER (Sep 2025): Selected to compete globally in Amazon's Application Security Capture the Flag.

SKILLS AND STRENGTHS:

- Programming/Scripting: Python, Bash, Shell, JavaScript, SQL, Git
- Security Tools: Wireshark, Nmap, Burp Suite, Metasploit, Tcpdump, OpenVPN, Snort, Nessus
- OS & Platforms: Linux (Debian, Kali, Ubuntu), Windows Server, Windows 10
- DevOps/Automation: Git, systemd, Docker, GitHub Actions
- Domains: VPN Detection, IDS/IPS, Logging & Monitoring, RBAC