

KAVENNESH BALACHANDAR

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EDUCATION:

Master of Cyber Security | GPA : 3.89/4.00
Florida International University, Miami, FL.

August 2024 - April 2026

WORK EXPERIENCE:

Student Teaching Assistant | Florida International University, Miami, FL

January 2025 - Present

- Led weekly labs for **60+** students across **4** courses—structured live demos and debugging clinics using Canvas lifting average lab completion **22%** and cutting resubmissions **30%**.
- Authored **10** exam guides and **15** workshop decks aligned to weekly outcomes—clarified tricky concepts and exam patterns—raising course ratings from **3.9** to **4.5/5** and boosting attendance **28%**.
- Provided **8–10** hrs/week of **1:1** mentoring—targeted study plans, code reviews, and office-hours follow-ups—raising advisee pass rates from **82%** to **92%** and reducing late submissions to **40%**.
- Standardized checklists and rubrics for labs—set clear expectations and feedback loops—reducing back-and-forth and improving grading consistency.

Network Analysis | DECCAN SOLUTION, Chennai, India

December 2023 - February 2024

- Deployed and tuned Cisco Secure Firewall 3100 series across **3** sites — reduced unauthorized traffic **40%** and lowered MTTR **35%**.
- Consolidated **25+** access rules and standardized TLS configs — achieved 0 audit findings and cut false positives **20%**.
- Automated 12 recurring Linux admin tasks with Bash/Python (backups, log rotation, user provisioning, cert renewals) — saved ~6 hrs/week and shortened release prep **25%**.
- Documented runbooks and monitoring thresholds (CPU, sessions, link state alerts) — improved handoffs and sped up first-response during incidents.

PROJECTS:

Home Networking Lab - Personal Project | Salem, Tamil Nadu

May 2025 - July 2025

- Built Debian-based remote access with OpenSSH + Ngrok — sustained **99.5%** tunnel uptime, mean reconnects **<15s**
- Created **6** systemd units and **3** scripts — reduced recovery steps from **8→1** and cut setup time by **~70%**.
- Added role-based SSH access, key rotation, and health-check logging — simplified revocation, sped up troubleshooting, and reduced manual restarts.

VPN Monitoring & Detection System | Coimbatore, Tamil Nadu

January 2024 - March 2024

- Built a DPI-driven VPN detection stack (**~95%** on **100+** tunnels), cutting policy violations **60%**.
- Operationalized an enterprise pipeline with **3** custom policies, surfacing and resolving **50+** anomalies in real time.
- Hardened production with ELK alerting, live logging, RBAC, and runbooks; slashed median triage from **30** to **8** min.
- Delivered a lightweight Node/Express SPA (server.js) for detections with live refresh, robust error handling, and a clean public/ + package.json structure.

Enhanced Image Generator | Coimbatore, Tamil Nadu

January 2023 - March 2023

- Processed **1,000+** images with OpenCV/NumPy/PIL — improved clarity by **+5–7 dB** PSNR and lifted downstream model F1 by **3.2** pts.
- Automated batch preprocessing — reduced per-dataset prep time by **50%** and standardized outputs across runs.
- Implemented DPI-style signatures and traffic heuristics — detected **95%** of VPN sessions in test flows; policy violations fell **60%** in pilot.
- Shipped alerts and dashboards to ELK with Slack notifications — cut median triage time from **30** min → **8** min and enabled faster escalations.

PUBLICATION:

VPN Blocker: Detection and Prevention of VPN Tunneling in Enterprise Networks.

February 2024 - March 2024

- Designed a DPI-based VPN detection system; validated **90–95%** detection on encrypted tunneling protocols.
- Reduced VPN policy violations by **50–60%** in pilot after enforcement policies were applied.
- Integrated with ELK-based monitoring to govern **100+** daily sessions; cut median triage time from **30** to **8** min via alerting and runbooks.
- Deployed with RBAC and audit logs, improving incident MTTR by **30–40%** and tightening compliance posture.

AWARDS AND EXTRA-CURRICULAR ACTIVITIES:

- Eraksha Cybersecurity Competition (Aug 2023): **1st** place nationally for solving real-world cyber 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 CTF.

SKILLS AND STRENGTHS:

Programming & Scripting: Python, Java, C++, Shell Scripting, Git, Bash

Security & Networking Tools: Wireshark, Nmap, Burp Suite, Kali Linux, Metasploit, Tcpdump, OpenVPN

Operating Systems: Linux (Debian, Kali, Ubuntu), Windows Server