Bilal Bari

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EDUCATION

National University Of Computer & Emerging Sciences   **Jun. 2025**

BS. Cybersecurity   Karachi, Sindh

- Ethical Hacking , Information Security , Secure Software Design , Network Security , DevSecOps
- ACM Cybersecurity : Red Team Head

PROJECTS

Threat Model : Smart Home System   **Jan. 2025**

- A partial threat model for a fictional smart home system using OWASP Threat Dragon
- It includes DFDs (Level 0, 1, 2) STRIDE analysis, an attack tree, and risk assessments via DREAD and FAIR.
- The system components modeled are web/mobile UIs, a cloud backend, local hubs, and smart devices

Secure CI/CD Pipeline for OWASP Juice Shop using Github Actions   **Mar. 2025**

- Designed and deployed a **secure CI/CD pipeline** integrating **8+ security tools** across SAST, DAST, SCA, IaC, and container scanning stages using **GitHub Actions**.
- Automated scanning with tools like **Bandit, TruffleHog, Snyk, Trivy, Clair, Checkov**, and **Conftest**, ensuring early vulnerability detection.
- Implemented **real-time log monitoring and alerting** via **Datadog SIEM** and integrated **dynamic scanning** using **GraphQL-based attack simulation**.
- Achieved **full automation coverage on pull requests**, reducing manual review time by ~70% and improving security posture across the SDLC

Parallel Algorithm Performance Analysis Using OpenMP and MPI   **Oct. 2024**

- Analyzed **N-Ary Search** and **Floyd-Warshall algorithms** using **OpenMP** and **MPI**, focusing on execution time, scalability, and communication overhead.
- Found **MPI to be ~5× faster** than OpenMP for N-Ary Search due to minimal inter-process communication after initial data distribution.
- Observed **up to 60% increase in execution time** for MPI over OpenMP in Floyd-Warshall due to **communication bottlenecks** across nested iterations.
- Benchmarked performance across data sizes up to **1 million edges** and **16 cores**, visualizing trends using computation vs communication time graphs.

CERTIFICATIONS, SKILLS & Languages

- **Certifications:** Google Cyber-Security Certificate
- **Technologies:** GitHub Actions, Git, Docker, Bandit, ZAP, Gitbot, TruffleHog, Snyk, Trivy, Clair, Checkov, Conftest, Threat Dragon, Datadog SIEM, FTK Imager, Autopsy, Volatility, IDA Pro, OllyDbg, Cutter, Wireshark, Strace, Registry Explorer, Event Viewer, Kali Linux, Ubuntu, Windows
- **Skills:** Secure SDLC, CI/CD Security, Threat Modeling (STRIDE), SAST, DAST, SCA, IaC Security, Secrets Scanning, Vulnerability Management, Reverse Engineering, Digital Forensics, Malware Analysis, Network Traffic Analysis, SIEM Integration, Ethical Hacking
- **Languages:** Python, C++, Bash, Javascript