

Arsalan khan

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SUMMARY

Cybersecurity student with a growing background in network defense, threat analysis, and secure system development. Actively engaged in exploring both defensive and offensive security practices, while building practical experience through academic projects, security labs, and community leadership. Motivated to deepen expertise and contribute to research-driven advancements in cybersecurity, with a focus on developing intelligent, scalable, and security-focused solutions.

EXPERIENCE

• Pakistan Air Force

July 2025 – August 2025

Islamabad, Pakistan

Cyber Security Intern

- Assisted with SOC monitoring, network configuration, vulnerability assessment and penetration testing activities.
- Performed PortSwigger labs using Burp Suite and conducted end-to-end security testing on a DVWA environment.
- Delivered tasks reliably while demonstrating professionalism, punctuality, and strong problem-solving skills.

• IT SOLERA PVT LTD

July 2024 - September 2024

Remote

Red Team Intern

- Conducted penetration testing to identify vulnerabilities and enhance cybersecurity defenses.
- Designed and developed ConnectFinder, a Python-based People Search Tool that aggregates data from multiple sources, enhancing identity verification and threat analysis.
- Gained hands-on experience in penetration testing, threat analysis, and security assessment.

EDUCATION

• Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI)

September 2022 - Present

Topi, Pakistan

Bachelors of Science in Cyber Security

◦ CGPA: 3.42/4.00

◦ Final Year Project: TrustChain: A Blockchain Based Secure Voting System

PROJECTS

• Secure Ride-Hailing Web Application

Apr 2025



Tools: Python, Flask, MySQL, HTML/CSS/JS, Mapbox API, JWT, bcrypt

- Developed a secure multi-role (user/driver/admin) ride-hailing platform using Flask.
- Implemented hashed passwords, JWT-based session handling, and CSRF protection for secure authentication.
- Integrated Mapbox API for live ride tracking and outsourced payments to maintain PCI-DSS compliance.
- Applied OWASP security practices to mitigate SQL injection, XSS, and other web vulnerabilities.

• QRGenX: Cloud-Native QR Code Generator

Mar 2024



Tools: Python, Flask, Docker, AWS EC2, Terraform, GitHub Actions, Prometheus, Grafana

- Built a containerized QR code generation API using Flask and Docker.
- Deployed the service on AWS EC2 with Auto Scaling Groups provisioned via Terraform.
- Implemented CI/CD pipelines with GitHub Actions for automated testing and deployments.
- Configured Prometheus and Grafana dashboards for real-time performance monitoring and alerts.

• Anomaly-Based Intrusion Detection System (IDS)

Dec 2024



Tools: Python, Google Colab, Pandas, NumPy, Scikit-Learn, Matplotlib

- Implemented K-Means clustering with PCA to detect anomalous network patterns.
- Processed and normalized network traffic data with 40+ behavioral features.
- Achieved a Silhouette Score of 0.87 indicating clear cluster separation.
- Visualized clusters to highlight abnormal traffic points and deviations.

• Genetic Algorithm-Based Phishing Email Detection System

Nov 2024



Tools: Python, Google Colab, Pandas, NumPy, Scikit-Learn, TF-IDF, Random Forest

- Used a Genetic Algorithm to select key features from email text.
- Trained a Random Forest classifier on TF-IDF processed email data.
- Achieved 95.45% with strong precision and recall balance.
- Evaluated performance using confusion matrix and metric comparison.

• Deep Learning-Based Network Forensic Framework for APT Detection

Nov 2024



Tools: Python, Google Colab, Pandas, NumPy, Scikit-Learn, TensorFlow/Keras

- Developed a network forensic framework to detect Advanced Persistent Threat (APT) activity.
- Trained an MLP deep neural network on the UNSW-NB15 dataset for anomaly identification.
- Applied feature filtering and hyperparameter tuning to enhance detection accuracy.
- Evaluated model performance using confusion matrix, ROC curve, and precision-recall metrics.

SKILLS

- **Cybersecurity & Network Defense:** Penetration Testing, SOC Monitoring, Threat Intelligence, Digital Forensics, Vulnerability Assessment, Incident Response, Risk Assessment, Threat Analysis, Network Security, Packet Analysis, Firewall/IDS Concepts, OWASP Top 10
- **Machine Learning for Security:** Anomaly Detection, K-Means, Random Forest, MLP/DNN, Model Evaluation, Hyperparameter Tuning
- **Programming & Development:** Python, C++, SQL, Bash, Flask, REST APIs, HTML/CSS/JavaScript
- **Security & Analysis Tools:** Burp Suite, PortSwigger Labs, Seed Labs, Wireshark, Nmap, Metasploit, Hashing & Encryption Libraries
- **Cloud, DevOps & Automation:** AWS, Terraform, Docker, GitHub Actions (CI/CD), Prometheus, Grafana
- **Soft Skills:** Project Coordination, Technical Documentation, Team Collaboration, Problem Solving

AWARDS

- **Dean's Honor Roll Award** — Achieved distinction GPA for four consecutive semesters with GPAs: 3.71 (Semester 3), 3.65 (Semester 4), 3.54 (Semester 5), 3.52 (Semester 6).

LEADERSHIP EXPERIENCE

- **Member & Hackathon Head – ACM GIKI Chapter** Sep 2023 – Present
Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI)
 - * Organized and led technical competitions including Speed Programming, Game Development, and Hackathons.
 - * Attracted and engaged 250+ participants annually, fostering innovation and community collaboration.
 - * Managed full event lifecycle including planning, logistics, execution, and post-event reporting.
- **Head Member – Society for the Promotion of Higher Education in Pakistan (SOPHEP)** Feb 2023 – Present
Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI)
 - * Led the organization of major institutional events including GIMUN, GIKI Moot Cup, Career Fair, Educational Expo, and Industrial Open House.
 - * Coordinated with 50+ industry leaders and academicians to deliver impactful networking and recruitment experiences.
 - * Hosted events with 200+ participants annually from universities and organizations across Pakistan.

ADDITIONAL INFORMATION

Languages: English (Fluent), Urdu (Fluent), Pashto (Native)

Interests: SOC Operations, Red Teaming, Football, Music, Traveling