

OMAR MATTAR AL-GHAFRI

Network & Security Graduate

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Recent Network & Security graduate (GPA 3.3/4.0) from Arab Open University, Oman, with Cisco CCNAv7 certification (Enterprise Networking, Security, and Automation) and hands-on experience configuring Fortigate and Palo Alto next-generation firewalls during a technical support internship. Practical exposure to network monitoring, Active Directory administration, and LAN/WAN troubleshooting on a 200+ user campus network. Author of three IEEE-indexed research papers and recipient of a government research grant, reflecting strong analytical and academic writing skills. Former IT Society Club President and Teaching Assistant with 3 years of experience mentoring students in networking and programming. Seeking to build a career in network engineering and infrastructure.

CORE TECHNICAL SKILLS

Networking	CCNAv7 (Enterprise Networking, Security & Automation) • LAN/WAN Troubleshooting • Routing & Switching • Network Traffic Monitoring
Security	Fortigate Firewall Configuration • Palo Alto Firewall Configuration • Active Directory Administration • Cybersecurity Attack Techniques
Automation & Cloud	Python (Netmiko, Paramiko) • YAML / Infrastructure as Code • Azure & Google Cloud Run Fundamentals
Programming	Python • Java • C / C++ / C# • SQL & MySQL • HTML / CSS / JavaScript
Professional	Technical Support & Troubleshooting • Project Management • Team Leadership • English & Arabic Communication

CERTIFICATIONS

CCNAv7: Enterprise Networking, Security & Automation — Cisco	Jul 2024
CCNAv7: Switching, Routing & Wireless Essentials — Cisco	Jul 2024
CCNAv7: Introduction to Networks — Cisco	Dec 2023
Completed training in Azure Cloud Fundamentals –introductory level — Society of IT Engineers	Jul 2024
Cybersecurity Attack Techniques — Edraak.org	2023

EDUCATION

Bachelor of Science – Network & Security	Sep 2021 – MAR 2026
Arab Open University, Muscat, Oman GPA: 3.3 / 4.0	

WORK EXPERIENCE

IT Technical Support Intern | Arab Open University — Enterprise Campus Network (200+ endpoints, multi-site LAN/WAN) Mar 2025 – May 2025

- Monitored network traffic and assisted in configuring Fortigate and Palo Alto next-generation firewalls to maintain secure and reliable campus connectivity.
- Diagnosed and resolved hardware and software issues for 200+ university staff and students, reducing average ticket resolution time from approximately 40 minutes to 30 minutes (25% improvement) through efficient troubleshooting and technical support practices.
- Applied CCNA principles to troubleshoot routing and switching configuration errors on campus LAN/WAN infrastructure.
- Administered Active Directory user accounts and access permissions, ensuring compliance with university IT security policies.
- Deployed and updated academic software suites across computer labs and administrative offices with zero-downtime approach.

Academic Teaching Assistant | Arab Open University 2022 – 2026 (3 years)

- Facilitated lab sessions and tutorials for undergraduate networking and programming courses, improving student pass rates.
- Designed practice exercises and provided one-on-one mentoring, translating complex technical concepts for diverse learners.
- Collaborated with faculty to update course materials aligned with current industry standards (CCNA curriculum).

Personal Full-Stack Projects | Self-Directed 2019 – Present

- Built and deployed a personal portfolio (omarsites.vercel.app) and web/mobile applications using HTML, CSS, JavaScript, Python, and Flutter/Dart as self-directed learning projects alongside academic studies.
- Managed SQL/MySQL databases, REST APIs, and cloud deployments (Google Cloud Run).

LEADERSHIP & ACTIVITIES

President – IT Society Club | *Arab Open University*

2023

- Led a 50+ member student technology community; organized workshops, hackathons, and guest speaker events.
- Strengthened faculty-student collaboration and grew club membership from 35 to 50+ members (40% increase) during tenure.

RESEARCH & PUBLICATIONS

Research Grant – Principal Investigator | *Ministry of Higher Education, Research & Innovation (Block Funding 2024)*

- Awarded a 1,500 OMR government grant to lead AI-driven research: Automated Detection of Cardiomegaly Disease Using Deep Neural Networks Based on Chest X-Ray Image Analysis.

IEEE Publications (Peer-Reviewed Conference Papers):

- *Cardiomegaly Detection from Chest X-Rays Using EfficientNetB7: A Deep Learning Approach* – DOI: [10.1109/ROMA66616.2025.11155469](https://doi.org/10.1109/ROMA66616.2025.11155469)
- *Cardiomegaly Detection from Chest X-Rays Using InceptionV3: A Deep Learning Approach* – DOI: [10.1109/ROMA66616.2025.11155557](https://doi.org/10.1109/ROMA66616.2025.11155557)
- *Deep Learning-Based Cardiomegaly Detection from Chest X-Rays Using DenseNet-169* – DOI: [10.1109/ICCA66035.2025.11430850](https://doi.org/10.1109/ICCA66035.2025.11430850)

PROJECTS

Network Automation & GitOps | *Self-Directed GNS3 Lab Suite*

Network Automation with Python (GNS3 Lab) | (<https://github.com/OmarAlghafri/cisco-network-automation>)

- Automated Cisco router/switch configuration, backups, and health reporting using Python (Netmiko, SSH) across a multi-device GNS3 lab topology.
- Built a YAML-based device inventory enabling bulk VLAN deployment with a `--dry-run` safety mode, reducing manual per-device configuration.

NetGuard — Configuration Drift Detection & GitOps Compliance | (github.com/OmarAlghafri/NetGuard-Configuration-Drift-GitOps)

- Built a Python/Netmiko engine that treats Cisco IOS configs as version-controlled code, diffing live running-configs against git-committed golden baselines using semantic parsing (ciscoconfparse).
- Designed a data-driven severity policy (CRITICAL/WARNING/INFO) that classifies drift and safely auto-remediates critical changes via a dry-run-first CLI, with every check logged to an audit trail.

NetIntent — Network Change Impact & Intent Verifier | (github.com/OmarAlghafri/NetIntent-Network-Change-Impact-Intent-Verifier)

- Built a Python engine that models a Cisco network's routing (connected/static/OSPF) and ACLs, tracing packets hop-by-hop to verify declared reachability intents.
- Engineered a change-simulation feature that tests proposed config edits against a copy of the model before deployment, catching connectivity-breaking changes (e.g. overly broad ACLs) pre-push; validated predictions against the live lab.

NetAtlas — Automated Topology Discovery &

Documentation | (github.com/OmarAlghafri/NetAtlas-Automated-Network-Discovery-Topology-Mapping-Documentation)

- Built a Python engine that discovers live network topology from CDP/LLDP neighbor tables (Netmiko/SSH), auto-generating a rendered diagram (networkx/matplotlib) and Markdown inventory on every run.
- Implemented git-committed topology baselines that detect and report added/removed devices and links as drift, eliminating manually-maintained, stale network documentation.

Software & Full-Stack Development projects

Creator & Developer | CoreDefyX (<https://coredefy.vercel.app/>)

- Built an enterprise-grade AI data-leak firewall that redacts sensitive data from LLM prompts in real time (<5ms), using a reverse-proxy architecture with Docker deployment and a cross-platform dashboard.

Creator & Developer | NetRewind (github.com/OmarAlghafri/NetRewind | netrewind.vercel.app)

- Built a Linux "black-box recorder" in Go (eBPF/netlink) capturing interface, ARP, routing, and nftables state changes to reconstruct an outage's causal chain — not raw packets.
- Designed the "Isnad" correlation engine, chaining link flaps, gateway/ARP hijacks, route changes, and connection failures into confidence-scored root-cause incidents, validated on a 14-scenario fault-injection lab.
- Shipped a production-style toolchain — CLI, web UI, Prometheus/OpenTelemetry export, signed self-updates, and a bootable appliance image — for linux/amd64 and linux/arm64.