



PROFESSIONAL SUMMARY

Results-driven **Electronics & Communications Engineer** with a proven ability to solve complex problems and deliver impactful solutions. Specializes in **network automation, infrastructure monitoring, and scalable backend systems**. Delivered **enterprise-grade solutions** that automated network operations and supported engineering teams with **Live KPI dashboards**. Skilled in **Python, Django, and cloud deployments**, with a strong focus on reducing manual workloads, detecting anomalies, and improving system reliability. Works effectively with minimal supervision and communicates clearly across technical and non-technical teams.

WORK EXPERIENCE

Wireless Department Trainee

June 2022 – August 2022

MAXNET WIRELESS BROADBAND

Khartoum, Sudan

- Installed and configured **InfiNet wireless equipment**, including **APs** and antennas, for urban deployments.
- Performed **site surveys** and spectrum analysis to optimize signal coverage and AP placement
- **Troubleshoot network** issues related to signal strength, interference, and throughput performance
- Provided **technical support** to end users, resolving connectivity issues and documenting fixes
- Assisted with **maintenance** and prepared documentation for hardware/software installations and procedures

IEEE Outreach Volunteer

September 2022

IEEE SUDAN SECTION

Khartoum, Sudan

- Participated in organizing and delivering student outreach events promoting engineering and technology awareness
- Presented "**Intelligent Water Control System**" project, **awarded best project** at the event

Project Experience

Incident Management & Field Support Platform (MNS)

DEVELOPER | DJANGO, AWS, NGINX, PLOTLY, GUNICORN

- Built a **telecom ops platform** for **50+ engineers**, automating **2,000+ monthly tickets** and cutting resolution time
- Designed a **tiered ticketing system** with **fault classification, RCA**, and real-time **KPI dashboards** (TTR, overtime)
- Developed **RBAC, city-region mapping**, automated PDF/CSV reports, and secure file handling.
- Deployed on **AWS EC2** with **Nginx** and production-grade setup.

Impact:

- Replaced manual Excel/email tracking and reduced turnaround time.
- Improved **equipment traceability**, audit-readiness, and automated reporting.

Network Infrastructure Topology Automation & Data Pipeline

DEVELOPER | PYTHON, PANDAS, NETWORKX, MATPLOTLIB, CSV/EXCEL

- Automated **topology mapping** for **10,000+ devices**, detecting **200+ issues** (missing roots and isolated nodes).
- Cleaned and standardized **raw PDT/CSV data** into structured, validated datasets.
- Generated **7+ CSV reports** with optional **topology visuals** for audits and planning.

Impact:

- Achieved **full visibility** across **100+ subnetworks**.
- Replaced manual spreadsheet checks with **automated validation**.

Network Security Compliance Automation

DEVELOPER | PYTHON, PARAMIKO, SELENIUM, OPENPYXL

- Automated password discovery and rotation for **16,000+ devices** with **20+ legacy credential** sets.
- Built dynamic **SSH/web automation** with **UI handling**, logging, and self-recovery.
- Integrated **Excel-based reporting** for access, errors, and updates.

Impact:

- Saved thousands of manual hours with scalable, automated credential management.
- Strengthened **compliance** and embedded **daily NOC usage**.

KEY SKILLS & STRENGTHS

- **Programming & Automation:** Python, Django, Pandas, NumPy, Selenium, scripting
- **Networking & Telecom:** TCP/IP, VLANs, SNMP, PTP, PMP, public Wi-Fi, GSM/LTE/5G (basics), OSPF/BGP
- **Infrastructure & DevOps:** AWS EC2, Linux, Nginx, Gunicorn, Git, CI/CD (basic), PuTTY
- **Data Engineering & Visualization:** Plotly, Matplotlib, Chart.js, ETL pipelines
- **Database & Tools:** PostgreSQL, MSSQL, OpenPyXL, SMTP/email automation, Linux CLI
- **IoT & Embedded Systems:** Raspberry Pi, Arduino, remote control systems

EDUCATION

B.Sc. in Electronics Engineering (Honors) – Communication

NOVEMBER 2023 | CGPA: 3.85

UNIVERSITY OF GARDEN CITY

Khartoum, Sudan

- **Final year project: IoT-Based Metal Detector Robot**
 - Built an **autonomous robot** with metal detection, live video feed, theft alerts, and obstacle avoidance
 - Designed multi-sensor logic with real-time event logging and alert thresholding
 - Developed a **Django-based IoT control panel** with redundant access via **Wi-Fi, 3G/4G, and SMS**
- **Awards:** Full **five-year academic scholarship** for academic excellence and leadership

CERTIFICATIONS & TRAINING

- **IBM** – Introduction to Cloud Computing (Coursera, July 2024)
- Cisco Certified Network Associate (**CCNA**) – Exam preparation completed
- AWS Certified Solutions Architect – Associate (**SAA**) & Professional (**SAP**) – In Progress

LANGUAGES

Arabic – Mother tongue

English – Fluent