

Sami Omer Osman Abdelrahim

Bahri, Khartoum North, Khartoum State, Sudan

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Education

Sudan University of Science and Technology, College of Engineering, Khartoum, 61st St Class of 2018
Bachelor of Science (First Class Honors) in Electronics Engineering (Communications Specialization)
Cumulative GPA (CGPA): 3.40/4.00 Class Rank: 1

Academic and Research Experience

- **Academic Experience**

Have a good background on: Analog and Digital Communications, Mobile/Cellular Communications (2G, 3G, 4G LTE & 5G), Switching and Traffic Theory, Data Communications, Computer Networks, Information Theory and Coding, Data Analytics & Visualization, Information Security, Satellite Communications, Microwave Communications, Electromagnetic and Transmission-line Theory, Antennas and Wave Propagation, Telecom Project Management and Engineering Economics.

- **Relevant Courses**

- [1] Cisco CCNA Routing and Switching (R&S) course at Network Plus training center.
- [2] A System View of Communications: from Signals to Packets on Coursera online learning platform (Hong-Kong Univ. of Sci. and Tech.).
- [3] "Academic Information Seeking" on Coursera platform (Technical Univ. of Denmark & Univ. of Copenhagen).
- [4] "Introduction to Electronics" on Coursera platform (Georgia Institute of Technology–Georgia Tech).

- **Scientific/Research Contributions**

- [1] Sami O. Osman, M. Z. Mohamed, A. M. Suliman, and Amjad A. Mohamed "Design and Implementation of a Low-Cost Real-Time In-Situ Drinking Water Quality Monitoring System Using Arduino," in IEEE 2018 International Conference on Computer, Control, Electrical, and Electronics Engineering (ICCCEEE).
- [2] Journal article under peer-review process.

Work Experience

Network Intern, Electronics Banking Services (EBS) Inc. May 2019 – Aug. 2019

Responsibilities included:

- Configuring routers, switches and load-balancers from different vendors (Cisco, Huawei, F5 Networks).
- Configuring firewalls from different vendors.
- Documenting and Backing-up all network configurations.
- Networks Monitoring (PRTG).
- Configuring different types of modems (3G Modems, 4G Modems, CDMA-1x, CDMA-EV-DO).
- Providing technical support to banks and other departments in EBS.
- Writing and preparing technical reports to the banks and other departments in EBS.
- Other tasks assigned by the direct manager.

Multi-Vendor RF Engineer, MTN MS, Huawei Technologies-Sudan Aug. 2019 – Present

Responsibilities included:

- Performing daily KPIs check.

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- Worst cells determination and root-cause localization.
- Devising troubleshooting actions to rectify KPIs degradation problems.
- Proposing/implementing hard as well as soft re-tunes to improve network KPIs .
- Introducing and activating new features to improve 2G network KPIs.
- Developing customized tools and add-ins (using VBA/MS Office) to improve work efficiency.
- Preparing technical, KPIs and SLA Reports.
- Performing pre-launch optimization activities and SSV tests for new sites roll-out.
- Network parameter auditing.
- Performing neighbor relations audit/optimization.
- Performing cluster Optimization.
- Other tasks assigned by the team-leader.

Project Experience

University Research Projects

- Conducted several course research projects.
- Designed and implemented a prototype of a **low-cost environmental monitoring system** based on **Internet-of-Things (IOT)** technology.

Final-year Research Graduation Project

- Title: “**Design and Implementation of a Low-Cost Real Time Online in-pipe Drinking Water Quality Monitoring System**”.
- Achieved Objective: designed, implemented, and evaluated the performance of a low-cost, real-time, remote and in-situ drinking water quality monitoring system based on **IoT** and **WSN** technologies.

RF Engineering Projects Experience

- 2G BTS/Site Re-homing.
- 2G to 4G Band Re-farming Projects.
- MTN Sudan 2020 GKHT Modernization Project.
- MTN Sudan Regions Abis over IP Swap Project.
- Dual to CoBCCH Conversion project.

Skills

Software Working proficiency in

- MS Office Suite (Excel, Access, PowerPoint, Word, and Outlook).
- MS Office BI tools (PowerQuery & PowerPivot).
- Tableau Data Analytics SW.
- Huawei NMS/OSS Systems (U2000, U2020, PRS/NetEco) as well as other Huawei products.
- Huawei Genex Probe and Genex Assistant.
- Ericsson OSS tools & SAP BO.
- GIS SW Tools (MapInfo and QGIS).
- Microsoft SQL Server & SQL Server Management Studio (SSMS).
- Cisco ASDM and CCP, and Wireshark Protocol Analyzer.
- Network Simulators/Emulators (eNSP Simulator, GNS3 Network Emulator and Cisco Packet Tracer).
- Several simulation/CAD software tools (Protues, CADsoft Eagle, Fritzing and Multisim).
- Project Management SW Tools (ProjectLibre, Microsoft Project).

Programming Languages

Visual Basic for Applications (VBA), Python, C, and MapBasic.

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Hardware

- Familiarity with measurement tools and instruments including: Multimeters, Oscilloscopes, and Signal Generators.
- Ability to work with various hardware tools/equipment (such as soldering irons, prototyping breadboards, and copper boards), open-source hardware prototyping platforms (such as Arduino Uno) and various associated electronic modules (such as Wi-Fi and RF transceiver modules).
- Configuring, troubleshooting and managing network devices (Cisco switches/routers, modems, servers, etc.).

Languages

Arabic (mother tongue) and English (very good).

Certificates, Activities and Awards

Certificates

- Huawei certified **HCIA 5G H35-660**.
- Huawei certified **HCIA Transmission H31-311**.
- Huawei certified **Cyber Security Certificate (CSC)** for Service Work.
- Huawei certified **Pre-Position Competency Certificate (PPCC)**.
- Ericsson **2017 ICT Professional Foundation Graduate Program certificate**.

Extra-curricular Activities

- Volunteer: IEEE-SUST student-branch (responsibilities: setting up and presenting awareness sessions about the role and importance of the IEEE in advancing technology for the betterment of humanity).
- Participant: Sudan University 11th engineering week at the electronics engineering expo.

Awards: Awarded twice for outstanding academic excellence by Sudan University-College of Engineering.