TAWFIK MOHAMMED OSMAN

480.452.6734 • tmosman@asu.edu • https://www.linkedin.com/in/osman-tawfik-mohammed-11935b14a/

SUMMARY

MSE Electrical Engineering Student passionate about exploring the area of Circuit Design and Communication Systems. A problem solver, seeking for hand-on experience and opportunities to apply the concepts of engineering learned.

EDUCATION

B.S.E, Electrical and Electronic Engineering; Graduated May 2020
Ashesi University, Accra, Ghana. 3.73 GPA
M.S.E, Electrical Engineering; Graduating May 2021
Arizona State University, Tempe, AZ.
Mastercard Foundation Scholarship, Honored Scholar.
Relevant Coursework: Communication Systems, Digital Signal Processing, Digital Communication, Machine Learning in Python.

TECHNICAL SKILLS

Data Analysis and Statistics: Python, R-Studio,
Design and Modeling Tools: Cadence, MATLAB, SOLIDWORKS, Microsoft Office
Programming: Python, MATLAB, C, C++
Others: Microsoft Visio, GNU Radio

PROFESSIONAL EXPERIENCE

Ghana Broadcasting Corporation, Ghana: Engineering Intern May 2018 – Aug 2018

- Worked with the technical and production teams to monitor and process radio signals.
- Supervised the performance of transmission and reception Equipment and assisted in the maintenance of faulty equipment.

ACADEMIC PROJECTS

Ashesi University, Leadership IV for Engineers Design Project Fall 2018 – Spring 2019
Collaborated with a team of six to design and develop a functioning prototype of a solar powered automatic gate for Ashesi community:

- Modelled and assembly the individual parts of the system using SOLIDWORKS
- Developed team schedule, including quality measurement for each major milestone (Microsoft Project)
- Learned to interface hardware component with wireless communication and MySQL database (Python & C++).

Fulton School of Engineering, Fulton Undergraduate Research Initiative (FURI) Summer 2020
Project Title: Leveraging on Deep Learning to Predict the Optimal Beam Index, Using Wireless Sensing Localization.
Faculty Mentor: Ahmed Alkhateeb

- Contributed in Building a mmWave Testbed from USRP devices, mmWave antenna horns , a Two-wheeled Robot, Raspberry Pi server, and a client Base station on Laptop.
- Incorporated a Wireless Sensing Localization System to the testbed, using Python programming and Dashboard software from Marvelmind Robotics.
- Collected a dataset of positions and beam directions of the mmWave from this setup and used to develop a Multi-layer neural network.

OTHER WORK EXPERIENCE

Arizona State University, Tempe, AZ: Tutored as Undergraduate Teaching Assistant (UGTA) (5 hours/week) Spring 2020

- Assisted a faculty member in teaching Python Course(EEE498) for engineering students in Spring 2020.
- Enrolls in FSE201, took part in trainings and lectures that guides me as UGTA.
- Helped students to understand the basic concepts of python programming, and complete their Coursework.

School of Electrical, Computer, and Energy Engineering; Graduate Service Assistant May 2020 – July 2020
Arizona State University, Tempe, AZ: Lab Grader (20 hours/week)

- Graded lab assignment in Digital Design Fundamentals coursework (Uses DE-Lite 10, an FPGA board from Intel)

School of Electrical, Computer, and Energy Engineering; Graduate Service Assistant August 2020 - Present
Arizona State University, Tempe, AZ: Instruction Aid (5 hours/week)

- Assist lecturer in organizing classes and controlling the teaching and learning equipment.
- I voluntary assist student in their projects and HomeWorks in the course I worked for.

ACTIVITIES

Integrating a Prototype of Large Intelligent Surface(LIS) with a mmWave Testbed System August 2020 **-** Present
The objective of this project is to develop an intelligent surface, capable of reflecting or redirection mmWave signal in a non-line of sight scenarios of signal transmission.

- Employed the knowledge from previous projects to interface a prototyped LIS with NI-USRP transmitter-receiver system, using the socket connection application in python.
- Calibrated the transmitter and receiver USRPs transmit a pilot signal at its maximum power.
- We performed two field measurement and now we are now analyzing the data collected to make meaning out of it

Big Data Short Course by Prof. Widom of Stanford University, Ashesi University July 2018

- Learned basic big data analyses using Python, MYSQL and Excel.
- Introduced to algorithms of Data Mining and Machine Learning.