HAFIZA PALWASHA TAUQIR

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Seeking a challenging platform to show case my skills, which could provide me a chance to excel. I aim to deliver my best while working for the best as a computer teacher because computer is not to teach but to implement the technology.

EDUCATION

- MS (Electrical Computer Engineering) **CGPA 3.33/4**

  (Master in communication systems and signal processing)

  Completion year: 2019

  Institute of Space and Technology (IST), Islamabad

- BS (Electrical Computer Engineering) **CGPA 3.17/4**

  Completion year: 2016

  International Islamic University, Islamabad

- F.Sc. (ICS) **771/1100**

  Completion year: 2012

  Islamabad Model College for Girls, F-6/2, Islamabad

- Matric, (Secondary School Certificate) **806/1050**

  Completion year: 2010

  Islamabad Model College for Girls, F-6/2. Islamabad

ACHIEVEMENTS & HONOURS

- Selected in the 'International Summit Program' talent hunt program 2018 in Korea.
- Certified trainer at Cisco Networking Academy.
- Sponsored student throughout the Masters Study duration.
- Achieved 'Runner up' title for the FYP poster competition.
- NDC (NESCOM) sponsored final year project in bachelor.
- Benevolent scholarship throughout academic sessions.
- Member of student council in college & school for the development of character building of juniors with the honor of silver medal.
- Position holder in the school life earning multiple scholarships.
- Winner of many Qiraat competitions during academic life.

- Have the certification of more than 25 events in which I participated & arranged different competitions and workshops related to technical side.

RESEARCH & PUBLICATIONS

- Integration of IoT and Smart Grids to reduce Line Losses (Authored & Published in IEEE Conference iCoMET https://ieeexplore.ieee.org/document/8673433).
- End to end design of a high-altitude platform for communications. (under review)
- Deep learning based beam allocation in switched beam multiuser massive MIMO (Multiple Input Multiple Output) systems. (under review)

WORK EXPERIENCE

Research & Development Manager at IoT Center Pakistan. 1 Jan 2020 – present
STEM/STEAM education to implement the technology**.** 1 Jan 2020 – present
RIC Manager at CIT working on the development of smart homes and smart cities. 1 May 2018 – 30 Dec 2019
Online Quran Teacher at 'Quranic ink' teaching Quran to international Muslim students on Skype in USA, UK & Canada. 1 June 2018 – present
Research Engineer at IST for ICT/R&D Project (HAP) High Altitude Platform 1 March 2018 - 1 May 2018
Lab Engineer at INSTITUTE OF SPACE TECHNOLOGY 27 Feb 2017 - 26 Feb 2018
Technical Intern at UFONE in Code Networking Operation department 20 Sep 2016 - 20 Nov 2016
Team leader of the sponsored project from NESCOM 29 Feb 2016 - 28 June 2016
Administrative Intern at NIE (National Institute of Electronic) in Testing Lab 4 July 2014 - 29 Aug 2014

- I conducted STEM education sessions and worked on the development of its curriculum to enhance the logical thinking of youngsters.

- I build-up an electronic solution for the development of smart waste management system.

- I created a wireless telemetry link between High Altitude Platform (HAP) and Ground Station (GS). The data produced by sensors mounted on HAP successfully transmitted by using SDRs that processed by raspberry3 and received at GS within the range of 50 to 53 meters. The aim of the HAP is to provide an internet facility for less developed or ruler areas.

- Directional and narrow beams create a more reliable wireless communication link with a high data rate. I develop the system on Matlab that learns using Artificial Neural Network (ANN) to allocate multiple beams to multiple users in a cellular network and then on run time it takes decisions for allocating beams for MIMO (Multiple Input Multiple Output) systems.

- I proposed a system model that implements the Internet of things (IoT) to the home appliances with the backpropagation strategy. The practical advantage of such a system is the reduction of line power losses while transmission of electricity by providing them paths of two-way communication.

- I worked as a volunteer to collect the data for the project of "stress level measuring" of youngster males and females. At run time, the person solves the timed quiz and a web of electrodes is

mounted on the person's head, and then I save the data in form of graphs "time versus stress peaks" which is further used to observe the behavior of stress by applying ML algorithms.

- Assisted two courses 'communication systems' & 'wireless communication' with my ME degree and taught two labs 'signal & systems' and 'Antenna & propagation'. I worked as a team member to organize the convocation'2018 at IST (Institute of Space technology). Perform the duties as R & D coordinator throughout two years at IST with my studies.

- Performed administrative and management tasks voluntarily related to gather the students from all over the Pakistan for the development of RIC (Ruler Incubation Center). In this regard I played a vital role as a team member in preparing the merit lists, conducting interviews and polish their skills.

- Final Year Project (FYP) sponsored by NESCOM based on the development of software for realistic visualization of 3D graphs plotting using visual studio, OpenCV and OpenGL, titled as '3D Augmented Reality based Graph Plotter' with awarded A^+ grade.

- Worked in 'Centre for Quality Testing & Certification Electronic Products (CQTC-EP) lab as an intern. I worked as a team member that was responsible to test the appliances in the laboratory that includes: Socked & Power, Temperature, Voltage, Current, Open & Short circuit, Resistivity & Radiation sensitivity of the electrical appliances manufactured by companies.

- Intern at Ufone (PTML) in the department of Code Networking Operations (CNO) support. I was responsible for the project named 'numbering plan optimization' that includes the mobile numbering planning of all Ufone subscribers in Pakistan.

- Worked as a volunteer to arrange a one-day workshop on Robotics for junior batches at IIUI (International Islamic University Islamabad), displayed my semester projects on door desks at yearly basis, and present it to the senior technical visitors to get remarks for the improvement.

- Voluntarily performed administrative tasks as a coordinator in CIT that includes the preparation of merit list & short listing of the students from all over the Pakistan and then arrange the orientation and motivational session for them.

SEMESTER PROJECTS

- Image Editor that can combine the number of images to hide the real message (security-based project) by using MATLAB.
- Electronic voting machine using 8051 that can present the four leaders name on LCD, the voters come and press the button for their choice that increments the votes of the respective choice.
- Automatic mirror lamp using AVR that sense the presence of a person at the mirror using IR sensor.
- Mobile buying software that can take input of the mobile company and its ID to display its features and prices to the visitors by using Visual Studio.

- The home automation control system that can control the home appliances by using mobile with the help of AVR and Bluetooth module.
- Electronic Device tester that can test the PCB and equipment damages in the circuit.
- Controlling DC motor speed and direction using AVR.

High Level Computer Languages

- Python
- C++
- C#
- MATLAB

COMMUNICATIONAL SKILLS

- Strong research and creative skills
- Problem solving

SKILLS & TOOLS

Jupyter (Anaconda)
MATLAB, Simulink, SDRs, USRPs for wireless communication.
Arduino, Raspberrypi3 & NODEMCU.
SILVACO.
Pyxis Schematic & Proteus.
Visual Studio 2010 , OpenCV & OpenGL.
Tracer.
Kiel.
Atmel Studio.
WordPress