***Electrical / Embedded System Engineer***

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**ACADEMICS:**

**Professional Work Experience:**

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| ***B.Sc. Electrical Engineering***: University of Engineering & Technology, Lahore | **2014-2018** |
| ***F.Sc. (Pre-Engineering):*** Govt. Post Graduate College of science, Faisalabad | **2012-2014** |
| ***Matriculation:*** Govt. Laboratory High School, Faisalabad | **2010-2012** |

* **Powersoft19**  **[June 2018- Present]**

Powersoft19 is a global technology solution provider specializing from Life-Critical Embedded Solutions to Enterprise Application Development and Integration. I am currently working as **Embedded System Engineer** in its Automation and Robotics Team. I have assisted in developing the End of line Automated Test Setup for the **FACT** devices in collaboration with [Smart Wires](https://www.smartwires.com/) at Union City, California. My professional experience have helped me gain excellence in:

* + Designing firmware development process
  + Test, diagnose and fix firmware bugs
  + Proficient programming skills in C/C++
  + Communication protocols: I2C, SPI, UART, USB and CAN
  + Automation of third party tools ( Power Supplies, NI DAQ cards)
  + Analyzing the schematics of the PCB boards and designing the Test Cases
  + Designing Desktop Application for the Hardware ATM(Automated Test Manager) of the PCB boards.
  + Version control using SVN
  + Communication skills including ability to prepare technical documentation and presentations
  + Ability to work independently as well as in a multidimensional team
  + Professional exposure by working with global clients from USA
* **Development of 5 MVAR** [**SmartValve**](https://www.smartwires.com/smartvalve/)

Under the Supervision of Dr. Shaiq A. Haq, worked on the design of 5 MVAR SmartValve ( **SmartValve 5-1800i** ) at Mechatronics Lab in Powersoft19. My Key responsibilities in this project were:

* Design of 1500 A and 60 Hz smart square wave inverter with fault handling capabilities.
* Design of circuit layout for equal sharing of current among 8 parallel connected IGBTs.
* Design of LC filter to reduce the surge in output waveforms as the load increases.
* Design of Liquid Cooling Block **(LCB)** to reduce the temperature of IGBTs to less than 20 degree centigrade when they are triggered at 1500 A.
* **Center for Language Engineering, Lahore** **[April 2018]**

Center for Language Engineering (CLE) is conducting research and development in linguistic and computational aspects of languages, specifically of Pakistan and developing Asia. Worked as part time **research assistant** at CLE. My key responsibilities were

* Development of speech corpus by collecting the data and grammar specification related to Pashto Language.
* Interpreted and recorded the data from multiple people having different accent of speaking.
* Designed application utility which can detect and remove the redundant words in a text file.
* Designed software utility for text processing of given data
* **WAPDA Engineering Academy, Faisalabad** **[July 2017 – August 2017]**

WAPDA Engineering Academy Faisalabad offers training in Generation, Transmission and Distribution, Information Technology and Management. During Internship at WEA, I had opportunity to learn:

* Grid Station Operation & Maintenance for Private/Public Sector
* Steam/Gas Power Plant Simulator with fault Analysis for WAPDA & Private/Public Sector.
* Process Instrumentation & Control
* Analyzed the power system expansion plans and extracted the NPCC data for making of Planning Commission Performa (PC-1) while working in Power System Planning Department
* Invested 90 Hours in 220 kV / 132 kV Grid Station and oversaw the operation and control of both Air Insulated Substation **(AIS)** and Gas Insulated Substation **(GIS)**

**Final year project:**

**Design and Implementation of 3 phase solar UPS with dual axis tracking of sun (2017-18)**

* Supervised by Prof. Dr. Suhail Aftab Qureshi, We designed and implemented 3 phase solar UPS. Maximum possible efficiency of overall module was acquired through the dual-axis tracking of sun, tracking maximum power point **(MPPT)** of PV module through P&O algorithm, and deploying highly efficient space vector pulse width modulation **(SVPWM)** inverter technique.

**SEMESTER PROJECTS:**

* Semester 8: Design of data base for car rental system for students of UET
* Semester7: **Design and simulation of 12 bus power system and conversion of domestic loads to renewable energy sources.**
* Semester 6: Self balancing robot, speed control of DC motor.
* Semester 5: Robot control by hand gesture movement.
* Semester 3: Over and under voltage protection of electrical system with on time delay
* Semester 2: Positive and negative variable voltage DC power supply

**ACHIEVEMENTS& SCHOLARSHIPS:**

* Full fee waiver ship scholarship from UET Lahore **[2015]**
* 2nd position throughout the Mohmmand Agency in entrance test exam conducted by ETEA. **[2014]**
* Overall first position in entry test conducted by HEC for students of FATA &Baluchistan **[2014]**

**CO-CURRICULAR ACTIVITIES:**

* Headof Robotics team at IET UET Chapter
* Executive Member of IEEE UET

**Workshops and Conference:**

* 2 Days workshop on Programmable Logic Control, UET Lahore **[Feb-2017]**
* 2 Days workshop on Primavera P6, UET Lahore **[Feb-2015]**
* International Conference on Electrical Engineering (ICEE) **[2018]**

**PUBLICATION:**

Asim, Zafar 2018.[**Mobile Price Class prediction using Machine Learning Techniques**](http://www.ijcaonline.org/archives/volume179/number29/29158-2018916555)IJCA 179(29):6-11

* Real data set was collected from online [website](https://www.gsmarena.com/). Two feature selection algorithms and two classifiers were used. The best combination was InfoGainEval algorithm and Naïve Bayes classifier, which selected minimum but most appropriate features with highest accuracy. It was observed that in Forward selection by adding irrelevant or redundant features to the data set decreases the efficiency. While in backward selection if we remove any important feature from the data set, its efficiency decreases. **[3 Citations]**

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