

MUHAMMAD UMAR SHAHZAD

PEC Registered Electrical (Electronics) Engineer: 70237



Islamabad, Pakistan



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Professional Profile

To get a Career-Oriented job in a Professional-Environment, which offers utilization of Skills & provides Opportunities to gain Practical Experience for today's Competitive Industrial Environment.

Education

Bachelor of Science in Electrical (Electronics) Engineering

2012-2016

The ISLAMIA University of Bahawalpur | Bahawalpur, Pakistan

- **Percentage:** 78.8%
- **Course Work:** Circuit Analysis, Digital Logic Design, Electronics, Electrical Machines, Control Systems, Computer Communication & Networks, Microwave Engineering, Microprocessor based Systems, Robotics, Signal & Systems.

Higher Secondary School Certificate (HSSC)

2012

FBISE | Islamabad, Pakistan

- F.Sc. Pre-Engineering
- **Percentage:** 67%

Secondary School Certificate (SSC)

2010

FBISE | Islamabad, Pakistan

- Matric with Science Group
- **Percentage:** 69.4%

Technical Skills

Programming Languages: C/C++, Arduino, uC, Flow Chart Logic, Assembly, MATLAB, Android App Development, Ladder Logic.

Technical Software Tools: *Electronics Design & Development* (Altium Designer, Proteus, Express PCB, Fritzing, NI Multisim), *For CNC Work* (CamBam for CNC Work related with PCB), *Programming* (Arduino, ArduBlock, BlocklyDuino, Keil uVision, PIC CCS, MicroC, FlowCode, EMU8086, MATLAB, Simulink), *Engineering Drawings* (AutoCAD, EdrawMax), *Android Application Development* (Thunkables, MIT App Inventor, Android Studio), *Mentor Graphics* (ModelSim, Xilinx), *Network Design & Testing* (Cisco Packet Tracer, Network Socket Tester), *HUAWEI Platform Telecom Sites* (CLT Assistant, ISDP, QMS, Web LMT, Secure CRT), *Raspbian* (for Raspberry Pi)

Programming Devices & Sensors: ESP8266 WiFi Module, NodeMCU, Raspberry Pi 3, Micro-Stick (DSPIC33F) Arduino + ModBus, PIC16F, AVR (ATtiny84, ATmega8, ATmega16, ATmega328), 8051, Opto-Electronics Sensors, RFID, Movement & Motion, Thermistor, Ultra-Sonic, Gas Sensor, Liquid & its Level Sensor, EMG Sensor.

IT Software Tools: *Microsoft Windows Operating Systems* (Windows 98, Windows XP, Windows 7, Windows 8, Windows 10), *Raspbian Operating System*, *Noobs Operating System*, *Microsoft Office Suite* (Word, PowerPoint, Publisher, Excel, Visio, Visual Basic, Visual Studio), *Network Configuration*, *Graphics Designing*, *Audio Transcription*, *Remote Network based Management & Maintenance*, *English/Urdu/Arabic Composing*.

PROFESSIONAL EXPERIENCE

Lab Engineer

July 2018 – Till Now

Institute of Engineering & Technology (IET), Rawalpindi

- *Establishing new Labs of Control Systems, Robotics, Industrial Electronics*
- *Organized Technical Seminars for Institute's Students.*
- *Delivered Technical Lectures & Trainings to Diploma & Engineering Students.*

Electronics Design Engineer

Nov 2017 – Apr 2018

Engineering Village, Headquarter Branch (ESTRLAB), Muscat, Sultanate of Oman

- *Three Months training on Altium Designer based Electronics Design & Fabrication Process along with two Months Job as Electronics Design Engineer in Electronics Fabrication Department.*

Site Survey Engineer & Site Implementation Engineer

Feb 2017 – Feb 2018

HUAWEI Investment Technologies, Subcontractor Company AWJ International L.L.C, Oman

- *One Year Contract* based Job at various Regions of Sultanate of Oman for Telecom Sites' Surveys including Installation Surveys, Full Site Surveys, Full Site Audit, New & Old Equipment Placement & Replacement. Also, TSSR maintenance for Omantel & Ooredoo Surveys.
- *Telecom Sites'* Installations including Equipment Installations & Site On-Air Configurations with Major & Minor Tests. Also, Acceptance Documentation Management for Accepted Sites including Site Tests.
- *Link Migrations* of Optical Fiber Connectivity for CX & IP Core at Exchange End.
- *Copper Line Testing* (CLT Testing) for new System's Introduction in Omantel by Huawei.

Trainee Engineer & Research Assistant

Oct 2016 – Feb 2017

Center for Emerging Sciences, Engineering & Technology, Islamabad

- *Development of Robotics Lab* along with whole Developed Robotics Manipulators for upcoming Engineering Semester in the Institute.
- Organized Technical Seminars for Institute's Students.
- Delivered Technical Trainings related with Electronics & Science Fiction Projects.

Internee

Sep 2015 – Sep 2016

Lets Innovate Pvt. Ltd, Islamabad

- *Development of Internet of Things (IoT)s* based Smart Home Applications including Smart Wireless Switch for AC Appliances, Digital Timer based AC Appliances Switch.
- *Final Year Project* Completion.

Part Time Job Internee

Jan 2015 – Feb 2015

Byte Sol., Islamabad (UK's Company Outsources Project)

- *Development of new Technology Learning Board for UK University Students*, the **Superduino**, with multiple Specifications.
- *Development of Superduino*, with SMD Technology.

Internee

Jan 2014 – Dec 2014

A.H Automations Pvt. Ltd, Islamabad

- *PLC Trainers Development* for Institutions.
- *Arduino Projects* Development & Testing.

Internee

July 2013 – Sep 2013

A.H Automations Pvt. Ltd, Islamabad

- *Development of fully Automated System* for NADRA.
- *Development & Implementation* of Jigs.
- *PCBs Assembling, Testing & Installation*.

Schools/ Colleges/ Universities Students Projects Development

- *Development of Projects* for Learning, Science Fair Competition.
- *Semester based Students Projects*.

Distinctions, Achievements & Certifications

- **Global Certifications**, 2016 Microsoft & Hewlett-Packard.
- **Naat Competition**, 2016 AirNexus'16.
- **Best Ambassador Award**, 2016 FETEX'16.
- **Speed Wiring Competition**, 2016 FETEX'16.
- **Micro-Controller Interfacing Competition**, 2016 FETEX'16.
- **Speed Wiring Competition**, 2016 NASCON'16.
- **Runner's Up Speed Wiring Competition**, 2016 Techtiq's 16.
- **Winner Research Poster Competition**, 2015 APPPC'15.
- **Runner's Up Speed Wiring Competition**, 2015 Techtiq's 15.
- **Micro-Controller Interfacing Competition**, 2015 FETEX'15.
- **Winner Software & Quiz Competition**, 2013 CESET.
- **Quaid-e-Azam Scout Award & Scouting Campaigns**, 2008-2010 Boy Scout Association, Pakistan.
- **Naat Competitions** at School & College Level, 2009-2011

Extra-Curricular Activities

- Electronics R & D Work in Electrical/Electronics
- Broushers' Designing & Mobile Apps Development

- Huawei Worldwide **Sites EHS Training**, 2017 Huawei at Knowledge Oasis Muscat, Sultanate of Oman.
- **PLC SCADA & Optical Fiber Professional Training & Workshop**, 2017 SINA Institute, Islamabad.
- **NERC Robotics Workshop**, 2016 FETEX'16.
- **PCB Designing**, 2013 CESET, Islamabad

Final Year Project

Internet of Things (IoTs) Application in Home Automations

- Reduction of Resources, i.e. Memory, Power Resources & Automating the whole Electrical Appliances at Domestic & Industrial Level, to reduce the Electrical Power Crisis & Human-Involvement.
- Implementation of control & monitoring System for the Processes occurred.
- Development of Mobile Application through Multi-Threading.
- Inter-link the Hardware, i.e., the *Electrical Appliances* with the *Wireless (WiFi Module-ESP8266)*.
- Interlink the Hardware Designed, i.e., *Electrical Appliances*, with *Mobile Application* (to be developed a *GUI*) through WiFi.
- Implementation of Serial (RS232) Communication with Server, using Micro-Stick (DSPIC33F Development Board).
- Also, a Research Paper Published under *International Journal of Science Engineering and Advance Technology, (IJSEAT)*, Vol. 5, Issue 1, ISSN 2321-6905| January -2017.

Research Work

Conductive Ink/Paint

- Controlling the Conductivity of Carbon/Graphite (reducing the resistance) in molten State, to be used as a tool for constructing any Electronic Circuit on any non-conductive surface, without any need of Soldering & Wiring.
- Applications in Fabrics to Embed Lightening DC Bulbs on the Shirts for Foggy & Rainy Conditions to avoid from Road Accident for Pedestrians & Cyclists.

Formation of Conductive Glass

- Constructing the Conductive Glass by using some of the new Scientific Techniques, to be used as a cheap source of Solar Cell Designing.
- Applications in the Formation of Solar Cells by placing Photo-Diodes on Glass Surface.

Academic & Hobby Projects

Digital Clock	Wind Turbine Generator
Function Generator	Analog Multimeter
Scientific Calculator Design on MATLAB	RFID & Arduino Based Attendance Management System
Start Topology Implementation, Ethernet Splitter Design	Solar Cell Design & Fabrication using basic Electronic Devices
Automatic Plants Irrigation System	8*8 LED Matrix Animations & Game
Design of various Integrated Circuits with Basic Electronics Concepts	Development of Sensors & Displays
Design & Control of Robotic Manipulator	Development of Arduino Clone Boards with various AVR Controllers
RFID based Wireless Attendance Management & Door Opening System using ESP8266 Chip	Development of Air Freshener/Ionizer for the removal of Dust/Smoke Particles from Air
Raspberry Pi & Bluemix based Automation & Control	Main Power Theft Detector
Under-Ground Cable Fault Detector	Vehicle Tracking System over GPS
Solar Tracking System	

References

Ali Syed,

Supervisor FYP, Senior Lecturer

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Suleiman Al-Hasbi

General Manager

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