



Syed Muhammad Ussama Zafar

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About me:

Electronics Design Engineer with 7 years of working experience including Military and Defense Research and Development organization.

EDUCATION AND TRAINING

2011 - 2015 - ST-16 University Rd, Block 5 Gulshan-e-Iqbal, Karachi, Pakistan

BACHELOR OF SCIENCE – ELECTRONIC ENGINEERING – Sir Syed University of Engineering and Technology

Main Subjects: Basic Elec, E. D & C, Electrical Machines, Electromagnetic Theo, Digital Logic Design, Amplifier & Oscillator, Integrated Electronics

<http://www.ssuet.edu.pk>

2008 - 2010 - 52XC+6PX, Share-e-Gulistan Rd, Quetta, Baluchistan, Pakistan

Higher Secondary School Certificate – PRE - ENGINEERING – Tameer - I - Nau Public College

Main Subjects: Physics, Chemistry, Mathematics

<https://tameerinau.edu.pk/>

WORK EXPERIENCE

03/2023 - Present - Turin, Italy

Researcher (Hardware Design) – IXEM Labs, Politecnico Di Torino

- Component Sourcing and comparison, maintaining BOM's and supply management.
- Assembly, Testing/Validating, Commissioning of the Electronic systems
- Layout Design and Reviewing.
- Circuit Design as per the project specifications and client requirements
- Designing boards with LORAWAN applications and making sure of the RF compatibility.
- Project Technical Documentation

08/2022 - 02/2023 - Karachi, Pakistan

Electronic Design Engineer – iPronics Programmable Photonics, Valencia, Spain

- Design Specifications and BOMs
- Layout Design and substrate reviewing.
- Testing/Validation of fabricated circuits, Support link-level simulation
- Coordination with vendors and manufacturers
- Project Reports and documentation
- High Density Integration (HDI) electronic circuit design and layout generation.
- Coordination and design of high-speed and standard electronic interfaces.
- Design and simulate high-speed serial and SPI interconnects on chip and board.
- Collaborate with component and system engineers to test and extract interconnect performance parameters.
- Advise chip and board designer as to high-speed layout considerations such as parasites, crosstalk isolation and power supply distribution.

05/2020 - 08/2022 - Karachi, Pakistan

TECHNICAL LEAD – XEKERA SYSTEMS INC., CALIFORNIA, PAKISTAN CHAPTER

- New Product introduction and Designing PCBs/Schematics for **Rapid Prototyping** for our US clients.
- Designing electronic systems as per client details and product requirements, complete turnkey solution
- Developed a complete supply chain system, Vendor registration system and initiated **3D printing and CNC** facility for Rapid Prototyping and testing facility.
- Provided the internal supply chain with **cost-effective sources and gave technical support to clients.**
- Lead sales team of Xekera's Pakistan Venture Circuit.Pk.

06/2018 - 03/2020 - Karachi, Pakistan

TECHNICAL CONSULTANT – TECHNOPRENEURS.CO,

- Designed **automation IOT based feedback** and control system for monitoring Wireless Energy Monitoring using NODE MCU, **temperature and Humidity using DHT22**, switching different peripherals using DC contactors and for feedback using **GSM SIM800L/900** for different clients for industrial use based on Microcontrollers from the **Atmel At mega series and PIC 16F, 18F**.
- Designed Vacuum sealer for the cattle food industry for packaging using Vacuum Pump and Pneumatic Shafts for compression controlled by **electronic pneumatic valves via ATmega328**.
- Maintenance and Troubleshooting of Microcontroller based PCBs from industrial systems such as Metal Detectors, Induction Sealers.
- Implementation of **3 phase hi-torque AC motor with speed control drive** for rotating a mechanical floor with 2-ton load capacity.

08/2015 - 04/2018 - Jeddah, Saudi Arabia

ELECTRONIC DESIGN ENGINEER – STRATEGIC SYSTEM COMPANY (STIRA)

- Achieved Successful completion of STIRA's first Defense project, Armored Vehicle Vision System.
- Successfully designed Saudi Arabia's first **Media Processor Board with T.I DM8148**.
- Designed Saudi's first **Flex Rigid PCB-based wiring assembly** for Military Vision System benefiting the production time by 50%.
- Designed **PCB modules** handling **Power signals, High-speed Signals, Differential signals as well as Low – Voltage Differential signals, Serial Converters** having RS232, RS422, RS485, USB and CAN protocol for Sensors Instrumentation, Interface boards for cameras such as **Serialize and Deserialize Buffer boards, Serial and Digital Video Out interface, LVDS to HDMI converter and Power Supplies** with ground separation and smart switching for 28-33VDC 10A. PIC Micro Controller Boards based on 16F, 24F, and 32F (**Motor Drivers, Sensor Modules, and Switching Circuits**).
- **Generating BOM**, sourcing of components, and Performing circuit analysis using PSPICE, LTSPICE.
- **Skilled with vocational skills such as wire management and soldering** of SMD packages (SSOP, SOP, TSOP, QFP, QFN, etc.).
- **Designed 2D schematics and wiring harness** using the rapid harness for Industrial and Military standard machines **Handled EMI and ESI interferences** to secure electrical lines inside even for rugged environments complying with **MIL-STDs such as MIL-STD-810G**.
- New Product Introduction (NPI) - **Rapid R&D, Reverse Engineering, Prototyping, and leading the production planning**.

12/2014 - 08/2015 - Karachi, Pakistan

ELECTRONIC ENGINEER – SIPRA & COMPANY (PVT) LTD.

- **Testing of Motors**
- **Fire Alarm Systems and Machinery**
- **Evaluating and Calibrating Systems as per Client Needs**

12/2012 - 01/2013 - Karachi, Pakistan

ENGINEERING INTERN – Civil Aviation Authority of Pakistan

Completed 3 -weeks training in, Aeronautical Message Handling System (AMHS) Equipment Control Room (ECR) Radar Department

<https://caapakistan.com.pk/>

CERTIFICATION

Microcontroller Programming Certification

PLC Programming Certification

Certificate of Participation (Youth Festival 2012)

Certificate of Appreciation (Sir Syed University of Engineering & Technology)

DIGITAL SKILLS

Microsoft Visio | Rapid Harness | EagleCAD | Altium Designer | Mentor Graphics Pads | LTSpice | Microsoft Office, Microsoft Word, Microsoft Excel, Outlook, Facebook, Google

SKILLS

Technical Skills

Electronics Hardware Design, Electrical Wiring, PCB Designing, BOM Handling and Sourcing, Assembly Design, Circuit Design, Troubleshooting, Rigid-Flex PCBs, Tooling Expertise, 3D Printers and CNC Machine Handling.