Syed Raise Akram

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Objectives

Driven with the desire of enhancing my skills in a competitive and healthy environment, I am eager to share my expertise in a reputed research group working on challenging research problems.

Educational Qualifications

Sep.2012 – Dec.2015	**Master in Electrical Engineering** **Specialization:** Electronics System Design COMSATS Institute of Information Technology (CIIT), Islamabad, Pakistan (www.ciit.edu.pk) **CGPA:** 3.15on scale of 4
Aug.2006 – Oct .2010	**Bachelor of Technology (Electronics and Telecom)** Sarhad University of Information and Technology, Peshawar, Pakistan (www.suit.edu.pk) **CGPA:** 3.23 on scale of 4

Professional Experience

Jan. 2016 To date

Lecturer

COMSATS Institute of Information Technology, Islamabad, Pakistan

Department of Physics

- **Research Work**
  - ALICE ITS Upgrade project (CERN, Switzerland)
    - Hardware Design and Development for ALICE ITS Emulator Using XLINIX FPGA
    - Commissioning of ALICE ITS Detector at Point-2 during LS-2
  - Pakistan National Student Satellite Program (SUPARCO, Pakistan)
    - Co-Principle Investigator of system
    - Hardware Design for SRCS system
    - Hardware Design for ERS system
- **Courses Taught**
  - Applied Physics for Engineers
  - Mechanics and Thermodynamics
  - Fundamental of Electronics
  - Circuit Theory
  - Control Systems
  - Electronics-I
  - Electronics-II
  - Real Time Embedded Systems

2015 - 2016

Automation Manager

ICON Systems Pvt Ltd, Islamabad, Pakistan (www.iconsystems.pk)

- Design and Implementation of industrial Automation projects using
  - **ABB, SIEMENS** and **Allen- Bradley** PLC Systems.
- Modification in existing control systems.

2010 - 2015

Electronic Systems Designer

NESCOM, Islamabad, Pakistan

- Schematic capturing & Component creation.
- PCB Layout Designing for Analog, Digital & Power Electronics.
- Through Hole, Surface Mount and Mixed Technology, BGA's & FPGA's.
- Single sided, Double sided and Multilayer Boards Routing.
- High Speed PCB Design & Signal Integrity.
- Panelizing Multiple Boards, Design for Manufacturing & Design for Testability.
- Gerber Files, Assembly Files & Drill File Creation for Fabrication process.
- PCB inspection according to IPC standards.

	Engineering Supervisor
	Nayatel Pvt Ltd, Islamabad, Pakistan (www.nayatel.com)
2009 –2010	➢ Splicing, Termination and Testing of optical fiber.
	➢ Using all types of test equipment's such as **ODTR, Visual Fault Locator,** and **Power Meter etc.** in accordance with the instruction given in the equipment manual.
	➢ Keeping detailed records and maintenance logs of work activities and item of equipment involved.
	➢ Monitoring cable hauling and laying by the contractor.
	➢ **Planning** for the network enhancement.
	Senior Technical Assistant
	Comcept Pvt Ltd, Islamabad, Pakistan (www.com-cept.com)
	➢ Testing & repairing of all kind of electronic modules in all the projects of company.
	➢ Comprehensive working knowledge of a wide range of test equipment and hand tools.
2005 –2009	➢ Maintenance of all kind of test equipment's.
	➢ Functionality tests on new and refurbished products.
	➢ Utilizing software listings, Engineering documentation, Electronic schematics and test standards.
	➢ Prototype Circuit Assembly.
	➢ Quality Control for Incoming items and Outgoing products.

Graduate Courses Studied

- o Advance Digital Design
- o Robotics
- o Digital Control Systems
- o Linear Control System
- o Linear System Theory

Major Academic Projects

• **Master Thesis –Characterization of High Speed Serial Data Links for the ALICE Inner Tracking System**
European Organization for Nuclear Research (CERN) is the laboratory for particle physics near Geneva on the border between France and Switzerland equipped with a Large Hadron Collider (LHC) machine to carry out cutting edge research in the field of physics. A Large Ion Collider (ALICE) is one of the experiment at LHC which is currently under upgradation process. In ALICE there are many other sections and Inner Tracking System (ITS) is one of them on which my MS research is based. The area of my research is to design the emulator card so that the working of the new ITS detectors can be tested and the data from the detectors can be characterized. The new ITS detector is based in seven layers of sensor chips. The first four layers are called Inner Barrel Module and last three layers called Outer Barrel Module. Both are composed of sensor pixel chips to detect the results of the particles collision at different stages. The Emulator card behaves like a single unit of Inner Barrel Module and Outer Barrel Module to do real time data simulation as done by the original pixel chips. This helps us to study the new events and to debug the operation of the new detectors.

Publications

arXiv:2105.13000v 2 [physics.ins-det]	First demonstration of in-beam performance of bent Monolithic Active Pixel Sensors

Software Skills

Programming:	MATLAB, Verilog
Electronics:	Proteus, PCAD, Altium Designer, XLINIX , VIVADO