Mubashir Ali

Date of birth: 27/07/1990 | **Gender:** Male | **Phone number:** (+39) 3495897742 (Mobile) | **Email address:** mubashir.ali01@universitadipavia.it | **Address:** Via Cà Bella, 27100, Pavia, Italy (Home)

WORK EXPERIENCE

UNIVERSITY OF PAVIA – PAVIA, ITALY

PHD STUDENT – 01/06/2025 – CURRENT

Solid State Transformers for next generation AI server stations

UNIVERSITY OF LILLE – LILLE, FRANCE

RESEARCH ENGINEER (IC DESIGN) – 03/2023 – 01/2025

- State of the art review on radio frequency digital to analog converter (RFDAC)
- Designed a 3rd order single-bit digital delta-sigma modulator using VHDL language
- Dimensioning current steering cells, biasing circuit, and driver circuit for given values of current in 22nm FDSOI technology

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS) – LAHORE, PAKISTAN

RESEARCH ASSISTANT – 04/2021 – 01/2023

- Designed and implemented a "Two stage fully differential folded cascode OTA with ultra-low-power consumption in a 180nm CMOS technology
- Designed and implemented a "Passive Ripple Reduction Technique" for an integrated instrumentation amplifier
- Published an improved version of "DC servo loop" in an international conference (ISCAS)

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS (IIS), DIVISION ENGINEERING OF ADAPTIVE SYSTEMS (EAS) – DRESDEN, GERMANY

MASTER THESIS – 07/2019 – 01/2020

- State of the art review on fully differential amplifier architectures
- Designed and implemented a "Two stage fully differential miller compensated OTA" with ultra-low-power consumption in a modern 22nm FDSOI technology for sensor node application
- Designed and simulated the amplifier with the help of Cadence Virtuoso Analog Design Environment

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS (IIS), DIVISION ENGINEERING OF ADAPTIVE SYSTEMS (EAS) – DRESDEN, GERMANY

INTERN – 04/2019 – 06/2019

- Comprehended inversion coefficient methodology for transistor dimensioning
- Designed and implemented "Single ended folded cascode OTA" using inversion coefficient methodology in a 180nm CMOS technology
- Designed and implemented “Symmetrical operational transconductance amplifier (OTA)" using inversion coefficient methodology in a 180nm CMOS technology with Cadence Virtuoso Analog Design Environment

SAPPHIRE TEXTILE MILLS LIMITED – SHEIKHUPURA, PAKISTAN

INSTRUMENTATION ENGINEER – 01/02/2015 – 30/04/2016

Installing, testing, troubleshooting, and maintenance of:

- Switchgear, control panels, and motor control center panels
- Motor starters like direct on-line starter, star delta starter, semi star delta starter, and variable frequency drive
- Main distribution boards, sub main distribution board, and power factor improvement panel

EDUCATION AND TRAINING

01/06/2025 – CURRENT Pavia, Italy

PHD STUDENT University of Pavia

10/2016 – 10/2020 Chemnitz, Germany
MASTER OF SCIENCE IN MICRO AND NANO SYSTEMS Technische Universität Chemnitz

Thesis: Design and Implementation of an Unity Gain ADC Driver (Fully Differential Amplifier) with Ultra-Low Power Consumption in a Modern 22nm FDSOI Technology.
Short Description: Internet of Things provides the next generation of remote monitoring and control. From automobiles and factory automation to individual health and fitness monitoring, new applications are posing challenges of ultra-low-power and medium-speed requirements. The aim of this thesis was to design and implement an integrated unity-gain driver as an interface between Programmable Gain Amplifier (PGA) and Analog-to-Digital Converter (ADC) in 22 nm FDSOI technology.
Supervisor: Prof. Dr. John Thomas Horstmann

10/2010 – 12/2014 Lahore, Pakistan
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING The University of Lahore

Final Year Project: Concealed Weapon Detection and Tracking System
Short Description: This project was developed to detect and track the concealed weapons by the human. Security cameras videos were regularly observed and processed to detect the weapons concealed by any human entering in the office or institution. After detection that person was tracked in the scene and necessary information was sent to the security personnel, thus decreasing the possibility of any major damage.
Supervisor: Dr. Abdul Rehman Yasin

LANGUAGE SKILLS

Mother tongue(s): **URDU**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C1
GERMAN	A2	A2	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

List of publication(s)

- A. Muneeb, **M. Ali**, M. A. B. Altaf, "A 2.7μJ/Classification Machine-Learning Based Approximate Computing Seizure Detection SoC." In IEEE International Symposium of Circuits and Systems (ISCAS), pp. 1-5. 2022
- Syed Adeel Ali Shah, **Mubashir Ali**, Muhammad Awais Bin Altaf, "A Low-Power Biopotential Acquisition for the Wearable Shockable Electrocardiogram (ECG) System." In IEEE International Conference on Microwave, Antennas & Circuits (ICMAC), pp. 1-4. 2021
- Abdul Muneeb, Mubashir Ali, Muhammad Awais Bin Altaf, "A 2.7μJ/Classification Difference of Dual Differential Channel-based Approximate Computing Machine Learning SoC for Seizure Onset Detection." In IEEE Transactions on Biomedical Circuits and Systems

RECOMMENDATIONS

1. Name: John Thomas Horstmann
Position: Professor
Organization: Technische Universität Chemnitz
Email: john-thomas.horstmann@etit.tu-chemnitz.de

2. Name: Muhammad Awais Bin Altaf
Position: Assistant Professor
Organization: Lahore University of Management Sciences, Pakistan
Email: awais.altaf@lums.edu.pk

TECHNICAL AND SOFT SKILLS

List of skills

Programming skills: C/C++, Python, VHDL
Design and simulation tools: Cadence Virtuoso, Mentor Graphics (IC Station), Xcelium, MATLAB, KiCad
Advanced computer literacy: Microsoft (Word, PowerPoint, Excel, Visio, Windows), LaTeX, Inkscape, OriginLab

Soft skills: Effective communication, team player, highly motivated, independent working capability, analytical and problem solving skills etc