

MS. ASMA MUSHTAQ

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Academic Profile:

2023-Present

I have just started Ph.D. in Electrical Engineering from Pakistan but I am interested in doing Ph.D. from abroad as I believe in learning with diversity. So, far I have completed these courses:

- **Graph Theory and Network Optimization**
- **Industry 4.0**
- **IoT**
- **Research Methodology and techniques**
- **Applied Machine Learning**
- **Advanced Digital Image Processing**

2010-2016

Institution: University of Engineering and Technology, Lahore

Degree: MSc (Electrical Engineering)

Subjects taken

- Data Compression Techniques
- Advanced Power systems
- Design & Analysis of algorithms
- Optimization Techniques
- Renewable energy resources
- Network Security
- Linear System Theory and Design
- Machine Learning
- Digital Signal Processing

Thesis Title: Performance Analysis of Traffic Signs Detection and Recognition Techniques.

Introduction: As a part of my master's research, I worked on different Pakistani Traffic signs and analyzed the effect of color spaces on detection and recognition algorithms available under different weather conditions. Color based segmentation classification of the signs using K-nearest neighbors (KNN) and (support vector machine) SVM on MATLAB.

Grade: 68.39%

2006-2010

Institution: Lahore College for Women University

Degree: B.E (Bachelor of Electronic Engineering)

Final Year Project: “Hurdle Detector”

The basic principal of hardware design was to transmit short ultrasonic sound pulse (not audible for human ear) and to calculate distance from the hurdle using reflected signal. PIC microcontroller was used for processing the received signals and controlling purposes. A DC motor provided aid in preventing collision in case where the calculated distance was less than that of threshold distance. The idea behind was to avoid collisions in robotics cars.

Term Project: RGB color controlling using PWM.

Grade/CGPA: 3.77

Honor and Awards: *Role of Honor*

2004-2006

Institution: Government Islamia college for women Cooper road, Lahore.

Degree: F.Sc.(pre-engineering)

Grade: A (76.36%)

2002-2004

Institution: Alla-ud-din Academy for girls high school

Degree: Board of Intermediate and Secondary Education, Lahore

Grade: B+ (73.92%)

Job and Experience:

Position Held: Lecturer at Electrical Engineering Department GCU, Lahore.

Duration: 28th May, 2012 to present.

Research Interest

- Integrated Circuits Design.
- Embedded Systems Design.
- Machine Learning.

Service Activities

Member:

I have been a member of different departmental committees during my time at GCU.

- Departmental Final Year Projects Committee.
- Departmental Academic Committee.
- Departmental Purchase Committee.
- I have also been an event coordinator in department and have organized events including: Annual Project Exhibition (APEX) and Departmental Annual Dinner.

Courses Taught So far:

Theory Courses	Lab Courses
Linear Algebra	Microprocessor Based System

Numerical Analysis Differential Equations	
Programming Fundamentals Object Oriented Programming using C++	Programming Fundamentals
Digital Logic Design	Digital Logic Design
Electronic Devices and Circuits	Embedded Systems (PIC18, Atmega89C51, Arduino)
Embedded Systems	
Electromagnetic Field Theory	

Departmental Research Activities:

Had a chance to supervise different projects during my job tenure. The students hold distinction at national level by winning award at the APEX (Annual Project Exhibition) competition held in Lahore, after working under my supervision on “Intelligent Gestures Recognition and Processing Device”.

Hands on experience with modelling and simulation Tools:

- Latex
- Micro-Vision Keil.
- MPLAB.
- MATLAB.
- Proteus.
- Xilinx.
- MS Office (Word, Excel & Power point).

Professional Trainings related to teaching:

- One-month Internship Program in Pak Elektron Limited (PEL), 14-KM, Ferozepur Road, Lahore.
- GCU always values the professional grooming of its employees. “Outcome Based Education” (OBE) training was arranged by (Quality Enhancement Cell) QEC department that assisted me a lot for making my teaching skills better.
- I have also attended ComSoc Summer School twice (2017 & 2018) where I had a chance to come to know about emerging technologies for intelligent communication network design, IoT, and Machine learning.

Language skills:

- English (Read, Write, Speak)
- Urdu (Read, Write, Speak)