



Mohammad Irfan

Electrical Engineer

Detail-oriented Electrical Engineering student with a strong foundation in digital logic design and hardware description languages. Proven experience in developing video processing pipelines and implementing complex systems on FPGA platforms. Seeking to leverage expertise in Verilog and RTL design to contribute to innovative hardware acceleration and Digital IC design projects.

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EDUCATION

Bachelor of Science in Electrical Engineering

Namal University Mianwali
2022 - 2026 | Mianwali, Pakistan

WORK EXPERIENCE

Work-Study Student

Centre of Artificial Intelligence and Big Data, Namal University Mianwali
Jul 2025 - Aug 2025 | Mianwali, Pakistan

Accomplishments / Tasks

- Worked on the basics of FPGA design and programming, gaining hands-on exposure to digital hardware implementation.
- Learned and applied RISC-V based single-cycle processor concepts, including instruction execution and verification.
- Explored the integration of open-source hardware tools for FPGA-based system design.

SKILLS

Verilog HDL

RISC-V Architecture

Digital System Design

Hardware-Software Integration

Problem Solving

Vivado

Windows

Linux

PROJECTS

Single Cycle Processor

Lead

Designed a Single Cycle RISC-V processor in Verilog, verifying the data path by executing C programs compiled via the GCC toolchain.

Pipeline Processor

Lead

Implemented a 5-stage pipeline processor with hazard handling, fully capable of executing complex binaries generated by the GCC compiler.

FPGA Implementation

Lead

Interfaced peripheral modules with an FPGA board using Verilog to process real-time data signals and display output.

Line Following Robot

Role

Built a robot using Arduino Uno and IR sensors to follow a predefined path.

FINAL YEAR PROJECT

Design and Development of Video Processing Accelerator on FPGA

Lead and Role

Implementation of a Real Time Object Detection System via DVP OV5640 Camera on Xilinx FPGA.

CERTIFICATES

AI and High Performance Computing for Self Employment Track (One-Week Training)

Centre for AI and Big Data, Namal University Mianwali

Supercomputing and AI for Tech Entrepreneurs (Summer School)

Centre for AI and Big Data, Namal University Mianwali

Indigenous And Secure Digital System Design For National Progress (Summer School)

Centre for AI and Big Data, Namal University Mianwali