ROHIYA SHAFIQ

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EDUCATION

University of Engineering And Technology, Lahore Dec 2021- Jul 2025
B.SC Electrical Engineering CGPA 3.25
Punjab College, Lahore Sept 2019- Jul 2021
FSC Pre- Engineering 88.73% Marks
Government School, Lahore Mar 2017- Jul 2019
Matriculation 84.46% Marks

Coursework: Introduction to Computing and Data Science, Data Structures and Algorithms, Introduction to Machine Learning, Applied Probability, Programming Fundamentals, Computer Architecture, Microprocessor System

TECHNICAL SKILLS

Programming Languages: Python, C, Verilog/System Verilog
Libraries: Pytorch, Pandas, NumPy, Scikit Learn, Matplotlib, TensorFlow, Keras,
Design and Modeling Tools: Visual Studio Code, MATLAB, MS Excel, FDA Tool, GNU Radio, Altium Designer, Vivado, QuestaSim, Wireshark

ACADEMIC PROJECTS

Vision Transformer in Computer Architecture (Final Year Project):
Designed and implemented a Vision Transformer (ViT) architecture optimized for embedded systems. Focused on efficient hardware acceleration of transformer-based image processing using FPGA and RTL design techniques.

Feature Engineering for Enhanced Accuracy in Image Classification
Implemented feature engineering techniques using Linear Discriminant Analysis (LDA) and SVM to improve accuracy in image classification tasks on the MNIST dataset.

Gesture Control Car using TIVA
Developed an innovative Gesture Control Car using hand gestures detected by an MPU6050 gyro and accelerometer module, with data transmitted to the controller via an ESP32 module.

UART Integration with Pipeline Core and CSR support
Designed and implemented a UART transmitter and receiver module integrated with a pipelined processor, generating interrupts for byte transmission and reception. Incorporated Control and Status Registers (CSRs) to handle UART interrupts efficiently.

Design and Implementation of UART Transmitter in Digital System
Utilized finite state machines and shifted registers to design the controller and data path in Verilog hardware modeling, employing Vivado, and conducted thorough simulations in QuestaSim.

PLC Optimization using IOT Integration
Implemented an IoT-driven approach, incorporating an expanded sensor network, to enable predictive insights for proactive maintenance and substantial gains in energy efficiency and PLC optimization within the plant.

PROFESSIONAL EXPERIENCE

Teacher Assistant (TA) | Programming fundamental lab UET LHR **April 2023- July 2024**

- Dedicated Teacher Assistant (TA) for a Programming Fundamentals lab, providing crucial support to students' learning journey.

- Assisted in explaining coding concepts, debugging, and problem-solving, fostering a deeper understanding of programming principles.
- Conducted lab sessions, offered one-on-one guidance, and evaluated student assignments to enhance their coding skills.

Course Instructor Intern for DevOps **June 2023- August 2023**

- Served as a course instructor for DevOps, guiding students through essential principles and practices.
- Designed and delivered instructional content, helping learners develop proficiency in automation, continuous integration, and deployment.
- Facilitated hands-on exercises and assessments, ensuring students acquired practical skills for effective DevOps implementation.

Internship at Atlas Power **July 2023- August 2023**

- Interned at Atlas Power, gaining practical experience in the energy sector.
- Assisted in project management, data analysis, and operational tasks, contributing to company initiatives.
- Collaborated with the team to design and implement robust PLC-IoT solutions, resulting in streamlined operations and reduced downtime, ultimately enhancing the reliability and performance of power systems.