



Manahil Mushtaq

Computer Scientist

A final-year Computer Science student, driven by a passion for integrating hardware and software to develop intelligent systems. My expertise spans deploying AI models on embedded platforms to architecting scalable RISC-V-based HPC clusters, positioning me at the intersection of edge computing, machine learning, and systems design to create efficient, real-world solutions.

✉ manahilmushtaq004@gmail.com

📍 Mianwali, Pakistan

🌐 [linkedin.com/in/manahilmushtaq](https://www.linkedin.com/in/manahilmushtaq)

☎ +92 313 7704026

📄 manahil-04.github.io/

🐙 github.com/Manahil-04

EDUCATION

Bachelor of Computer Science

Namal University Mianwali

11/2021 - 06/2025

CGPA - 3.82

WORK EXPERIENCE

Junior Software Engineer

EZ MD Solutions

07/2024 - Present

Islamabad (Remote)

- Built a unified web platform for 4 medical logistics apps, streamlining workflows and improving UX for patients, vendors, and delivery teams.

Software Engineering Intern

Arbisoft

07/2024 - 09/2024

Lahore, Pakistan

- Completed 200+ hours of full-stack training and built 5+ mini web apps using React.js, Next.js, and Django under expert mentorship.

Intern

AlBee Labs

01/2025 - Present

Lahore (Remote)

- Developing deep learning models for real-time tobacco contamination detection in industrial settings to enhance product quality control.

Student Research Assistant

Center for AI and Big Data

01/2024 - 02/2025

Namal University, Mianwali

- Led the creation of a 1.2 PFLOPS GPU-based HPC system for LLM training and provided HPC training to 40+ students.

Campus Ambassador

Arbisoft

11/2023 - 06/2024

Namal University, Mianwali

- Boosted brand presence on campus by organizing 5+ events and marketing campaigns, increasing engagement by 60%.

Teaching Assistant

Namal University, Mianwali

10/2023 - 01/2024

Namal University, Mianwali

- Assessed 200+ submissions for Data Structures and ICS courses, ensuring fair and consistent academic evaluation.

SKILLS

C++

Python

JavaScript

TensorFlow

Scikit

PyTorch

Hugging Face

LangChain

OpenCV

MPI

STM32

Kubernetes

CUDA

Azure

React.js

Next.js

Django

MongoDB

MySQL

Grafana

Git

GitHub

PROJECTS

EdgeGuard: AI-Powered Edge Surveillance - Tkxel

- AI-powered offline edge surveillance system built on PaaS model, leveraging Nvidia Jetson and RISC-V for real-time video analytics.

Hawk AI - AlBee Labs

- Built deep learning models to detect tobacco contamination in real-time, enhancing quality assurance in industrial manufacturing.

RISC-V Heterogeneous HPC Cluster Development

- Engineered a low-power RISC-V and Intel-based HPC cluster with integrated SIEM and federated learning for scalable, privacy-aware AI research.

Wazuh SIEM Solution Implementation

- Deployed and configured Wazuh with Snort and VirusTotal for centralized security monitoring across multi-OS endpoints in a high-performance cluster.

Multimodal Network Anomaly Detection System

- Developed an AI-driven system to detect anomalies in logs and network packets using ML/DL and federated learning and multimodal data fusion.

JPEG Image Compressor

- Implemented a JPEG compression algorithm using DCT and Huffman coding, reducing file sizes by up to 60% while maintaining visual quality., Pakistan

RESEARCH

Low-Cost RISC-V HPC for Edge Computing

ICEPECC

CERTIFICATES

Machine Learning Specialization (via Deeplearning.ai)

AWS Certified Cloud Practitioner (via Udemy)