

# Muhammad Usman

BS Data Science Student · NUCES-FAST, Islamabad

usman.akbar.isb@gmail.com | (+92) 311-4155423 | usmandeve.me | linkedin.com/in/muhammad-usman-py |  
github.com/muhammad-usman-py

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## SUMMARY

BS Data Science student at NUCES-FAST with hands-on experience in Python, C++, and machine learning. Built projects spanning neural networks, game development, and system-level programming. Led a volunteer team and managed weekly operations. Looking to apply technical and problem-solving skills in a real-world environment.

## EDUCATION

**Bachelor of Science in Data Science** August 2025 – Present  
National University of Computer and Emerging Sciences (NUCES-FAST), Islamabad

- GPA: 3.31 / 4.00 (1st Semester) | Coursework: Programming Fundamentals, Multivariable Calculus, Artificial Neural Networks

**Intermediate in Computer Science (ICS)** May 2023 – May 2025  
Punjab Group of Colleges, Dunyapur, Pakistan | Grade: 88.5%

**Matriculation (Science)** January 2021 – March 2023  
National College of Science, Dunyapur, Pakistan | Grade: 94.18%

## TECHNICAL SKILLS

- **Languages:** Python, C++, C, HTML, CSS
- **Data Science ML:** Back Propagation, Neural Networks, Numpy Matplotlib, Gradient Descent.
- **Tools & Concepts:** Git, GitHub, VS Code, Jupyter Notebook, SFML.
- **Soft Skills:** Team Leadership, Problem Solving, Communication, Time Management

## PROJECTS

**Multilayer Perceptron (MLP) – Neural Network from Scratch** 2026  
Academic | Python, NumPy, Matplotlib, Jupyter Notebook | [github.com/muhammad-usman-py/mvc-mlp-25i2583](https://github.com/muhammad-usman-py/mvc-mlp-25i2583)

- Built a complete neural network using only NumPy on MNIST (60,000 images) – no ML framework used
- Coded forward propagation, backpropagation, and gradient descent across a 784–128–64–10 architecture

**Image Filter Studio – OOP Console Application** 2026  
Academic | C++, OOP, File I/O, stb\_image | [github.com/muhammad-usman-py/IMAGE-FILTER-STUDIO](https://github.com/muhammad-usman-py/IMAGE-FILTER-STUDIO)

- Built a console-based image processing app applying 10 filters (grayscale, blur, contrast, flip) on real JPG/PNG files
- Implemented role-based access (Admin/Customer), filter pipeline chaining, session history, and cross-platform password masking

**Python User Authentication System** 2025  
Personal | Python | [github.com/muhammad-usman-py/login-authentication](https://github.com/muhammad-usman-py/login-authentication)

- Built a CLI authentication system with user registration, password management, and role-based access control
- Used Python decorators to handle authentication logic, demonstrating functional programming concepts

**Flappy Bird – Desktop Game** 2026  
Personal | C++, SFML | [github.com/muhammad-usman-py/Flappy-Bird-CPP](https://github.com/muhammad-usman-py/Flappy-Bird-CPP)

- Developed a complete game with bird physics, randomized obstacles, persistent leaderboard, and real-time scoring

**Switchback Rails – Railway Simulation Game** October 2025  
Team | C++, SFML | [github.com/muhammad-usman-py/PF-Project-SwitchbackRails](https://github.com/muhammad-usman-py/PF-Project-SwitchbackRails)

- Built a railway simulation using core PF concepts – arrays, functions, structs, and control flow
- Implemented deferred switch mechanics, dynamic train scheduling, and collision detection

## LEADERSHIP AND VOLUNTEER EXPERIENCE

**Volunteer Team Leader – Al-Khidmat Foundation** 2025 – Present  
Civic and Community Engagement Course, NUCES-FAST Islamabad

- Organized Iftar drives, tree plantation, and education awareness campaigns for underprivileged communities

## CERTIFICATIONS

**Programming Fundamentals (C++) – Udemy** December 2025  
Instructor: Ammar Masood | 19.5 Hours | ID: UC-6c4932af-0806-44c6-93d2-31078fac45cc

## LANGUAGES

Punjabi (Native) | Urdu (Native) | English (Professional Working Proficiency)