

Muzamil Hassan Magsi

Data Scientist | ML Engineer

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Introduction

I am Muzamil Hassan Magsi, a Computer Systems Engineer from Islamia University Bahawalpur. I hold certifications in data science and web development, including IBM Data Science and Google Data Analytics. My skills encompass machine learning, data analytics, and front-end development with HTML, CSS, Bootstrap, and JavaScript. I leverage tools like Jupyter Notebooks, Git, and Docker. My data science expertise includes working with Python libraries such as Pandas, NumPy, Scikit-Learn, and Matplotlib. I am passionate about innovation and continuous learning, thriving in collaborative and dynamic environments.

Education

BSc. Computer Systems Engineering

The Islamia University of Bahawalpur

CGPA: 3.1/4.00, Graduation Year: 2025

Final Year Design Project

Detection Pneumonia Using Reinforcement Learning On Chest X-rays

Description: Designed and implemented a pneumonia detection system using reinforcement learning (Gym) and CNNs on chest X-ray images. Built a Flask-based Python application with a SQLite database to log and retrieve prediction history. Utilized TensorFlow for model training and inference; Applied deep learning for feature extraction and optimized agent performance via reward-based training loops

Personal Projects

- **Sales Analysis using Python and Pandas**

The development of a comprehensive sales analysis project focused on Indian markets, utilizing Python and the Pandas library. Spearheaded tutorials covering data loading, cleaning, exploratory analysis, product trends, geographical variations, time series analysis, customer behavior, promotions impact, and seasonal trends. Delivered valuable insights to understand market dynamics and support data-driven decision-making processes.

- **Hotel Booking Analysis with Python and Data Visualization**

Led the development of a comprehensive hotel booking analysis project using Python, Pandas, Matplotlib, and Seaborn. Created easy-to-follow tutorials explaining data cleaning, exploratory analysis, and insights into booking trends, cancellations, pricing, and guest demographics. Provided valuable insights into customer behavior, occupancy trends, and seasonal booking patterns, supporting strategic decision-making in the hospitality industry.

- **Weather Analysis with Python and Pandas**

Enhance your data analysis skills with the Weather Analysis project. Utilizing Python and Pandas, this project offers a gateway to understanding historical weather data. Learn to manipulate and visualize datasets, uncovering trends and seasonal patterns to gain valuable insights. Strengthen your analytical prowess and showcase your ability to interpret complex data effectively.

- **Network for the HBL Banking System**

For my semester project, I designed a secure and scalable network for a four-story HBL banking system. This involved strategic placement of routers, switches, and access points to ensure robust connectivity.

I utilized VLANs to segment traffic, enhancing security and performance, and implemented redundancy protocols to minimize downtime. The design also integrated security measures like firewalls and intrusion detection systems to protect sensitive data. This project honed my skills in network design and implementation, preparing me for real-world networking challenges.

- **Password-Based Door Locking System**

In another semester project, I developed a password-based door locking system using an Arduino microcontroller while studying Microprocessor and Microcontroller. This project involved programming the Arduino to control a digital lock, which could be accessed using a keypad input. The system enhanced security by allowing access only to individuals with the correct password. This project provided hands-on experience with microcontroller programming, circuit design, and embedded systems, deepening my understanding of hardware-software integration.

Skills

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|---------------------|-----------------------|-------------------|-------------------------|----------------------|
| • Python | • SQL | • Numpy | • Pandas | • Matplotlib |
| • Scikit-learn | • MicroSoft Excel | • Webscraping | • BeautifulSoup | • Git |
| • Mysql | • HTML5 | • CSS | • C++ | • Data Preprocessing |
| • Feature Selection | • Feature Engineering | • Model Selection | • HyperParameter Tuning | |

Licenses and Certifications

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| • Analyze Data to Answer Questions, Google | • Machine Learning Specialization, Stanford University |
| • Data Analysis with Python , IBM | |
| • Python 101 for Data Science, IBM | • Prepare Data for Exploration, Google |
| • Data Analysis with R Programming, Google | • Front-End Developer, Meta |
| • Process Data from Dirty to Clean, Google | • Data Mining and Business Intelligence, NAVTTC |

Experience

- **Python programming internship @ CodSoft** (Aprl 2024 - May 2024)

The Python Programming Internship at Codesoft offers hands-on experience in developing robust applications using Python. Interns will work on real-world projects, enhancing their coding skills and understanding of Python libraries and frameworks. The program provides mentorship from experienced developers, fostering a deep understanding of software development best practices and industry standards. Ideal for aspiring programmers, this internship is a stepping stone to a successful career in software development.

- **The Islamia University Bahawalpur** (May 2021 - May 2025)

During my time at The Islamia University Bahawalpur, I engaged in various academic pursuits, including coursework, labwork, projects, and extracurricular activities. This experience provided me with a solid foundation, honed my critical thinking skills, and equipped me with the knowledge necessary for professional growth.

- **Freelancing** (2021 - 2023)

As a freelance, I provided services to clients on platforms such as Fiverr. This experience allowed me to develop my skills, manage projects independently, and foster meaningful client relationships. I gained insights into many domains and enhanced my adaptability in meeting diverse client needs.

- **Internship – National Savings Center, Pakistan**(June 2024 - September 2024)

Supported IT operations including system maintenance, data handling, and network troubleshooting in a government financial environment. Contributed to improving digital workflows and ensuring system reliability. Gained exposure to secure data practices and legacy system integration.

- **Data Mining and Business intelligence**

National Vocational and Technical Training Commission NAVTTC(Jun 2023 - Aug - 2023)

The "Data Mining and Business Intelligence" course by NAVTTC offers essential skills in analyzing large datasets for informed business decisions. Participants learn data collection, preprocessing, warehousing, and visualization techniques using advanced analytics tools. Through practical projects, they gain hands-on experience in extracting valuable insights to optimize business processes. Graduates emerge equipped to drive innovation and growth in diverse industries, contributing to national economic development

Languages

- English
- Urdu
- Hindi
- Punjabi
- Sindhi

Tools

- Jupyter NoteBook
- VS Code
- Spyder

Interests

- Continuous Learning
- Problem Solving
- Networking
- Assisting others with coding errors