Muddasir Khuwaja

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ABOUT MYSELF

Computer Science Engineer Focused on Machine Learning and IT Solutions

I'm a dedicated Computer Science graduate with a Bachelor's in Engineering (BE), with a focus on web development and IT engineering. I started my career as a Web Developer at Creatives Aura, where I built responsive and dynamic web applications that improved user experiences. After that, I took on the role of Assistant Manager (IT Engineer) at STDC, where I was responsible for managing and maintaining IT infrastructure for over 2.5 years. From October 2022 to August 2024, I continued working remotely in this role while also pursuing my Master's in Applied Computer Science (Machine Learning & Big Data) in Italy.

Balancing real-world experience with academic learning has helped me grow my expertise in data-driven technologies and machine learning. I'm passionate about solving complex problems with technology and always eager to contribute to meaningful projects that make a difference.

WORK EXPERIENCE

Otofarma SPA - Italy, Naples/Napoli

Machine Learning & AI Engineer

[24/10/2024 - Current]

Designing, training, and evaluating ML models for predictive analytics and decision support.

Implementing GANs and other advanced algorithms for data augmentation and model performance improvement.

Applying AI techniques, including natural language processing (NLP) and working with large language models (LLMs) for research and automation tasks.Collecting, cleaning, and preprocessing large datasets from multiple sources.Performing exploratory data analysis (EDA) and statistical modeling to extract actionable insights.

Visualizing results through dashboards, reports, and interactive tools using Power BI and Python libraries.

Developing workflows for data-driven decision-making in healthcare and business contexts.

Building and maintaining web applications using Flask and related Python frameworks.

Designing interactive dashboards and web interfaces for data visualization and reporting.

IT & System Support

Managing IT infrastructure and supporting software and hardware operations.

Ensuring smooth integration of IT solutions with business processes.

Troubleshooting and maintaining internal systems, including automation of repetitive tasks.

Sindh Transmission and Dispatch Company - Pakistan, Karachi

Assitant Manager IT

[10/06/2021 - 13/08/2024]

As an Assistant Manager (IT Engineer) at STDC, I managed a variety of IT operations to ensure our systems ran smoothly. I oversaw IT infrastructure and employee attendance records, configured network services like DHCP and VPN, and maintained robust security through firewalls and Cisco equipment. I troubleshot Windows and Linux servers, implemented backup solutions, and provided user support for technical issues.This experience strengthened my technical skills and taught me to thrive under pressure.

Creatives Aura - Pakistan, Karachi

Web developer

[12/01/2021 - 03/05/2021]

As a Web Developer at Creatives Aura, I designed and built dynamic, responsive web applications using PHP, HTML, and CSS. I collaborated with team members to understand project requirements and created user-friendly interfaces that enhanced the overall experience. My role involved writing clean, efficient code, optimizing website performance, and ensuring everything worked smoothly across different browsers. I also maintained existing websites, updated content regularly, and integrated third-party APIs to add functionality.

EDUCATION

[03/01/2023 - 20/11/2025]

Master's in Applied Computer Science (Machine Learning & Big Data)

Focused on machine learning and big data, this program equips me with practical skills to analyze data and develop intelligent solutions for real-world challenges. I am currently working on GANs for coherence counterfactuals and exploring machine learning algorithms such as decision trees, random forests, and minimax. Additionally, I have gained knowledge in natural language processing (NLP), cloud computing, computer vision, and scientific computing, enhancing my understanding of artificial intelligence and its applications.

Link: https://international.uniparthenope.it/

[12/02/2017 - 20/12/2020]

Bechlor's of Engineering in Computer Science

Grounded in core computer science principles, my Bachelor's in Computer Science Engineering provided a strong foundation in programming, algorithms, databases, software development, digital logic design (DLD), and database management systems (DBMS).

Link: https://duet.edu.pk/

CERTIFICATION

Supervised Machine Learning, Deep Learning-AI (Stanford University-Online)

Public Financial Management by INTERNATIONAL MONETARY FUND (IMF).

Web Development using PHP and Laravel (APTECH COMPUTER EDUCATION)

Developing AI Applications with Python and Flask (IBM)

Certified MS Excel Professional & Power BI Tools

Health, Safety and Environment (TUV AUSTRIA)

ISO 26000:2010 (GLOBAL STANDARDS)

SKILLS

Programming Languages:

Python | C++ | PHP(Laravel) | SQL | MATLAB

Data Science & Machine Learning:

Power BI (data visualization and dashboard creation) | Machine Learning Algorithms (e.g., Decision Trees, Random Forests, GANs, Minimax) | Machine Learning, NLP | Excel (advanced functions, pivot tables, charts, and data analysis) | DataWarehousing | Data Cleaning & Preparation:

Cloud Technologies:

Hadoop - Spark - HDFS (Base) | Google Cloud Services (Gmail, Google Drive, Google Docs, Google Sheets, Google Forms)

Web Development:

WordPress and Wix | Multiple PHP (Laravel) Projects | HTML | CSS

PROJECTS

[13/11/2025 - 29/12/2025]

Virtual Voice Assitant This project is a compact web chatbot: a Python web app that loads the YAML conversation corpora and configuration, then accepts user messages.

On the backend it parses inputs, matches patterns/intents from the corpora, and selects scripted or rule-based responses. A REST API accepts user messages from the frontend and routes them to the backend orchestrator.

The backend loads YAML conversation corpora for pattern/intention matching and can call Vertex AI for embeddings, intent classification, or LLM-generated replies.

A response controller chooses scripted replies, CSV-backed domain lookups, or enriched AI outputs and applies simple business rules.

Conversation state is cached and logged, and background tasks queue external lookups or model requests to keep responses fast.

The app runs as a WSGI service with a lightweight HTML/JS UI calling the API, ready for local or cloud deployment.

Coherence Counterfactuals (for Analyzing Heart Disease Risk Factors Using Machine Learning) In this project, I developed a Generative Adversarial Network (GAN) to create synthetic patient data, aiding in a deeper analysis of heart disease. Using Jupyter Notebook and Python, I implemented various machine learning models, including Random Forests, to evaluate and predict key risk factors and outcomes. By conducting a comparative analysis of model performance with both real and generated synthetic data, I enhanced our understanding of critical risk factors associated with heart disease.

The Bellman Ford algorithm (Distance Vector Routing) The Bellman-Ford algorithm is a fundamental tool in the realm of network routing, particularly for nodes (such as routers) aiming to discover the shortest paths to reach various destinations within a network.

Single value decomposition with Apache Spark SVD and Apache Spark are likely employed for their combined capabilities in handling large-scale data analytics tasks efficiently. SVD, a powerful matrix factorization technique, excels in extracting meaningful patterns and reducing the dimensionality of complex datasets. By decomposing the original data matrix into three constituent matrices, SVD enables the identification of underlying structures and latent features, essential for tasks like recommendation systems, image compression, and signal processing.

LANGUAGE SKILLS

Mother tongue(s): English

Italian

LISTENING: B1 **READING:** A2 **WRITING:** A2

SPOKEN PRODUCTION: A2

SPOKEN INTERACTION: B1