Irfaan Mahmood
Python & MySQL Developer | CRUD Operations Expert | Data Solutions Architect
irfaan.data.solutions@gmail.com

PROFESSIONAL SUMMARY

Detail-oriented **Python and MySQL Developer** with expertise in **CRUD operations**, **database management**, and **data-driven solutions**. Proven track record in designing, developing, and implementing data-centric solutions using **Python**, **MySQL**, and **Pandas** to streamline business processes, enhance data analysis, and support decision-making. Adept at managing and manipulating large datasets, automating tasks, and delivering efficient data solutions tailored to client needs. Committed to delivering high-quality, scalable, and maintainable code that directly addresses client challenges and achieves desired results.

KEY SKILLS

- **CRUD Operations (Create, Read, Update, Delete) in MySQL**: Expert in building and managing CRUD operations to handle database records efficiently and securely, ensuring data integrity and optimal performance.
- **Python Programming (including Pandas for Data Manipulation and Analysis)**: Proficient in **Python** for developing data-driven solutions, utilizing **Pandas** for data cleaning, transformation, and manipulation, as well as data analysis and automation.
- **MySQL Database Management**: Skilled in managing MySQL databases, designing optimized schemas, and performing database tuning to ensure high performance and scalability.
- **SQL Queries & Stored Procedures**: Advanced knowledge of SQL for writing complex queries, creating stored procedures, and designing efficient database structures for large-scale applications.
- **Database Optimization**: Expertise in identifying and resolving performance bottlenecks by optimizing database queries and structure, improving data retrieval times and query efficiency by over 30%.
- **Data Integration & Automation**: Experienced in designing and implementing data pipelines that automate the extraction, transformation, and loading (ETL) processes for large datasets, enabling smoother workflows.
- **Data Reporting & Analysis**: Skilled in creating insightful reports and visualizations using tools like **Matplotlib** and **Pandas**, helping businesses track key performance metrics and make data-driven decisions.
- **Data Structures & Algorithms**: Strong foundation in algorithms and data structures, which helps in solving complex problems efficiently and designing scalable software solutions.

- **Data Cleansing & Transformation with Pandas**: Expertise in using **Pandas** for cleansing, transforming, and structuring raw data into useful, accurate formats for analysis.
- **Python Libraries: Pandas, NumPy, Matplotlib (for Data Analysis & Visualization)**: Experienced in using **NumPy** for numerical data processing, **Pandas** for structured data handling, and **Matplotlib** for generating visual data insights.

PROFESSIONAL EXPERIENCE

Freelance Python & MySQL Developer

Freelancer | Remote | January 2024 – Present

- Designed and developed **CRUD-based demo applications** to automate data entry, retrieval, and manipulation, simulating real-world scenarios in various industries.
- Wrote efficient SQL queries and utilized stored procedures to optimize data handling in projects like *Inventory Management System* and *Sales Tracking System*.
- Integrated **Pandas** for data analysis and transformation, enabling actionable insights from structured data.
- Built demo **data reporting systems** to analyze sales trends, monitor inventory, and track customer behavior.
- Proactively collaborated with mock clients to understand potential business challenges, showcasing problem-solving skills in database management workflows.

Python Developer Intern

TechSolutions Inc. | Remote | June 2024 – September 2024

- Contributed to the development of internal tools leveraging **Python and MySQL**, streamlining data management processes and enhancing reporting efficiency.
- Implemented database optimization techniques, reducing data retrieval times by over **30%**, significantly improving system performance.
- Collaborated with senior developers to design and deploy **data analytics and reporting systems**, enabling insightful business intelligence solutions.
- Acquired practical expertise in **Pandas**, processing and analyzing large datasets, and preparing data for actionable insights.
- Played a key role in documenting processes and sharing best practices to ensure long-term efficiency in data management workflows.

EDUCATION

Master of Science in Computer Science
Iqra University | Islamabad | January 2010 – August 2011

- Gained advanced expertise in database systems, big data analytics, and machine learning.
- Developed a strong foundation in Python-based data processing and optimization techniques.
- Specialized in building scalable solutions through advanced coursework in software engineering and data integration.

  Relevant Coursework: Advanced Database Systems, Machine Learning, Big Data Analytics, Software Engineering, Advanced Python Programming, Optimization Techniques.

- **Key Skills:** Advanced Python programming, database optimization, data pipelines, machine learning fundamentals, software engineering principles.

Bachelor of Science in Computer Science
Allama Iqbal Open University | Islamabad | January 2002 – December 2005

- Built core knowledge in database management systems, algorithms, and data structures.
- Acquired foundational skills in Python programming and SQL for effective data handling.
- Completed in-depth studies in data science principles, laying the groundwork for advanced learning.

  Relevant Coursework: Database Management Systems, Python Programming, Data Structures, Data Science, Algorithms, SQL.

  Key Skills: Python programming, SQL, database management, data structures, algorithms, data science basics.

PROJECTS

Customer Information Database (Personal Project)

- Designed a **MySQL**-based database for storing and managing customer information.
- Implemented **CRUD operations** for managing customer records with a Python-based interface.
- Utilized **Pandas** to generate reports on customer activity and sales trends.
- Ensured high performance and optimized database queries for fast retrieval of customer data.

Inventory Management System (Demo Project)

- Built a simple **inventory management system** with Python and MySQL for tracking products, suppliers, and stock levels.
- Automated the update of stock levels using **CRUD operations** and **Pandas** for processing inventory data.
- Integrated a reporting tool that generated daily, weekly, and monthly inventory status reports for management.

Sales Tracking System (Demo Project)

- Developed a **sales tracking system** to monitor sales data and trends using **MySQL** for storage and **Python** for analysis.
- Created dynamic visualizations using **Pandas** and **Matplotlib** to illustrate sales performance over time.
- Designed the system to be scalable, allowing for integration with external sales platforms in the future.

CERTIFICATIONS & TRAINING

- **In Progress:** Python for Data Science and Machine Learning (Udemy, expected completion: January 2025)
- **In Progress:** MySQL Database Management & Administration (Coursera, expected completion: February 2025)
- **In Progress:** Pandas for Data Analysis (Coursera, expected completion: December 2024)

ADDITIONAL INFORMATION

- Languages: English (Fluent)
- Tools: Jupyter Notebooks, MySQL Workbench, SQL Server Management Studio (SSMS), DataGrip, Git, GitHub, Tableau, PyCharm, VS Code, Postman, AWS (for cloud-based data solutions), TensorFlow (for Machine Learning), Excel (Advanced)
- Interests: Data Science, Machine Learning, Algorithm Development, Data Visualization, CRUD Operations, Database Optimization, Automating Data Pipelines