

ALI ASGHAR MARVI

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TECHNICAL SKILLS

- **Languages & Development:** Python, JavaScript, Java, C#, R, KNIME
- **Libraries:** scikit-learn, Numpy, Pandas, Keras, Tensorflow, D3.js, matplotlib, seaborn
- **Frameworks:** Bootstrap, Flask, jQuery, Node.js
- **Database Tools:** PostgreSQL, SQL Server, MySQL, Oracle, MongoDB, Firestore
- **Cloud Technologies:** Microsoft Azure, Google Cloud, Firebase, Google Colab, Dialogflow, AWS
- **BI Tools:** BIRT (KNIME), PowerBI, Qlikview, .NET Charts
- **Source Control:** Microsoft TeamFoundation, Git
- **CI/CD:** Docker, Gitlab
- **IDEs:** Visual Studio Code, PyCharm, Visual Studio, JupyterLab, Eclipse, Arduino IDE, Android Studio, Eclipse
- **Concepts:** Database Design, Pipeline Design, Data Analysis, Machine Learning, Deep Learning

PROFESSIONAL EXPERIENCE

KNIME Gmbh (Konstanz, Germany)

Mar 2021 – Present

Data Scientist

- Teamed up with the Educators Alliance division, focusing on evangelism strategies to augment KNIME's presence within academia. This initiative led to a noteworthy 30% rise in registrations among educators affiliated with the KNIME Educator's Alliance.
- Architected and implemented a time series extension within KNIME by leveraging the platform's Python node development library. Effectively constructed a wrapper around **Statsmodels** and **Pandas** date and time functionality.
- Played a pivotal role in designing and contributing to specialized spaces within the KNIME platform, focusing on Marketing Analytics, Supply Chain Analytics, and Digital Health Care.
- Named contributor in "[Machine learning for marketing on the KNIME Hub: The development of a live repository for marketing applications](#)" published in the Journal of Business Research, December 2021.
- Engineered an Arduino weather station integrated with KNIME Server API for data collection, followed by a comprehensive data pipeline for data backups and time series analysis.
- Actively engaged with the KNIME community by providing solutions and addressing queries on the KNIME forum.
- Collaboratively designed and taught **L4 - Data Engineering (DE)** and **L4 - Data Visualization (DV)** course in KNIME.

JS Bank Pvt. Ltd. (Karachi, Pakistan)

Nov 2019 – Oct 2020

Automation Engineer

- Directed end-to-end ETL pipelines and conducted thorough data analysis across various departments, designing impactful PowerBI dashboards and dynamic .NET charts for data-driven decision-making.
- Pioneered an optimized C# RPA service leveraging Selenium, automating the generation of withholding tax certificates and reducing a 2-week task to just 1 hour.
- Initiated a user-friendly cash management web portal, empowering branch teams to input end-of-day vault cash balances efficiently, enhancing data insights, and mitigating Excel file redundancy.
- Engineered a cohesive workflow for the Customer Account Operations team, integrating requests from social and phone banking channels, leading to a significant reduction in query processing time to within a single day.
- Conducted advanced **time series analysis** to forecast cash demand for the primary cash processing cell. Achieved a notable **30% reduction** in costs associated with payments to insurance companies for holding excess cash in the branch's vault.

K-Electric Pvt. Ltd. (Karachi, Pakistan)

Feb 2018 – Nov 2019

Assistant Manager – Information Technology

- Led initiation and maintenance of critical business applications on **.NET** and **Android** platforms, serving departments like Meter Readings, New Connection, Human Resources, and Business Strategy.
- Innovated an automated e-billing subscription service in .NET, enhancing the customer experience and transitioning users to electronic billing.
- Expertly integrated Mobile Device Management SDKs into Android apps, reinforcing IT policies for enhanced security on field devices.
- Deployed **DenseNet** neural network to automate the input of consumer meter readings for field staff, collectively reducing the time taken by meter readers by several hours.

EDUCATION

Masters in Computer & Information Science

University of Konstanz

Oct 2020 – Jun 2023

Bachelors in Computer Science

Institute of Business Administration, Karachi

Jan 2014 – Dec 2017

PROJECTS

Master's Thesis

- Ensemble Methods for Image Quality Assessment using Individual or Group Ratings (Konstanz, Germany)

Nov 2022 - July 2023

Applied ensemble methods, including bagging, boosting, and stacking, in Objective Image Quality Assessment (IQA) using the KonIQ-10k dataset, coupled with meticulous data processing to identify user clusters through Ward's minimum variance algorithm for Hierarchical Clustering (Agglomerative), enhancing evaluation metrics such as Spearman-Rank and Pearson-Linear Correlation Coefficients.

Process Automation - CI/CD (Konstanz, Germany)

April - July 2021

Orchestrated end-to-end research paper refinement, utilizing CI/CD Process Automation in GitLab, from initial design to DBLP-compliant document production, while also engineering Docker images for efficient management of node.js and Python dependencies, configuring GitLab to monitor the CI/CD pipeline, and ensuring seamless integration and delivery.

Karachi Civic Innovation Lab - Volunteer Application. (Karachi, Pakistan)

Aug - Oct 2019

Created a user-centric Flutter application for visually impaired individuals, facilitating notifications to nearby volunteers through screen taps, and engineered a robust cloud infrastructure using Node.js on Firebase, ensuring prompt notifications and seamless management of user data and requests through Google's Firestore, while implementing efficient user role management for admin, volunteer, and visually impaired users.

Spark Retail – Big Data Solution for Retail (Karachi, Pakistan)

Jan - Dec 2017

Executed a comprehensive final-year project leveraging the Hortonworks sandbox environment to configure a robust four-computer cluster with Apache Hadoop, Spark, Oozie, Storm, Hive, Sqoop, and Zeppelin. Developed and implemented bash scripts in the Linux environment for sequential service management and integrated external RDBMS and BI tools for enhanced data visualization, strengthening analytical capabilities.