Ahmed L. Rashed

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Professional Summary

Results-driven **BI Developer** who understands how to ask the right questions to uncover insights. Finder-of-Root-Causes and Connector-of-Dots, with over 15 years of manufacturing process domain knowledge, delivering TACTICAL insights and PROFITABLE action-plans. Thrives in transforming operational data into strategic assets, driving better business decisions and operational efficiencies using SQL, Python, Tableau, Azure, and Power BI.

Work Experience

Test Analytics Consultant   GLOBALSTAR   REMOTE- LA   02/2024 – 04/2024

Designed, debugged, and automated production test deployments and database connectors.

- Integrated disparate data collection plans using SQL to enhance data-driven development.
- Collaborated with data engineers to migrate databases from onsite servers to AWS cloud servers.
- Revamped manufacturing PowerBI dashboards to automatically clean incoming data and KPI metrics.

Independent Consultant   BADGER METER   REMOTE- WI   05/2023 - 11/2023

- Overhauled the architecture of legacy test software into a modern extensible framework.

Data Analytics Consultant   HENNY PENNY   REMOTE- OH   12/2022 – 04/2023

Designed, developed, and maintained robust test systems, ensuring reliability and efficiency. Translated technical concepts for non-technical stakeholders, ensuring project goals were understood across different departments.

- Extracted and analyzed three-years-worth of operational data to uncover trends and inefficiencies, presented opportunities for improvement to stakeholders in concise, easy-to-understand action-items.
- Designed and implemented data pipelines in MS SQL Server to streamline data collection and processing, enhancing build quality and saving Mfg engineers over 15 hours weekly in manual data manipulation.
- Created python utility to extract and transform data from TestStand SQL database schema into flat CSV files. Reduced script to single-file, used *auto-py-to-exe* to build a stand-alone executable file for users to download.

Quality Engineer Consultant   GRANVILLE PHILLIPS   REMOTE- CO   09/2022 - 01/2023

Quickly learned onsite TestStand executive framework, becoming the resident expert in two months. Led the implementation of a new data analysis system into existing stations, resulting in a 20% increase in data accuracy.

- Performed exploratory SQL analysis to identify patterns in ion-gauge board test telemetry data, translating the complex data-driven analysis into simple, easy-to-understand insights using Power BI.
- Collaboratively interpreted Power BI report with product engineers to brainstorm and develop test models that would reduce failure rates and improve cycle time in the ion-gauge test line.
- Implemented and validated predictive analytics models using python to pre-emptively forecast and classify CTQ failures before the final test station, cutting rework times by 25% and increasing throughput by 10%.

Principal Test Engineer   MKS INSTRUMENTS   Methuen, MA   03/2021 - 06/2022

Managed test station software projects, ensuring quality and reliability of software through comprehensive regression testing and streamlined reporting processes. Picked up Python and SQL on-the-job to drive enhanced data visualizations for Tech Ops & Business Unit teams.

- Extracted manufacturing data using Python, SQL, and Excel for monthly quality reports, preventing over $50,000 in lost annual revenue by catching product quality defects BEFORE they leave the factory floor.
- Created visually impactful dashboards and executive data visualizations in Tableau to track production yields and failure modes, saving test engineers over 10 hours weekly in diagnostics and manual reporting.

Senior Test Engineer   MKS INSTRUMENTS   Methuen, MA   03/2011 - 06/2022

Incorporated extensive upgrading and overhauling legacy product lines. Rewrote test software architecture into robust, data-driven, user-friendly applications, improving quality, reliability, and efficiency.

- Worked alongside engineering and product teams to implement data-driven strategies and solutions.
- Designed and built statistical analysis models on large data sets using Azure Data Studio, reducing product rework and post-processing test-time by 15%.
- Connected Tableau dashboards to centralized data-pipeline for real-time production data tracking, improving average time-to-bug-fixes by 20% and highlighting time-sinks in factory workflows.

Test Engineer   MKS INSTRUMENTS   Methuen, MA   06/2008 - 08/2011

Sustained production by creating and updating test software, troubleshooting test stand issues and malfunctions. Maintained test software to ensure the quality of products, resolving stand problems to keep production moving.

- Cleaned, transformed, and prepared data for visualization, ensuring accuracy, consistency, and relevancy.
- Presented data insights and recommendations to manufacturing engineers and production managers to inform strategic decisions.
- Standardized data collection and storage, deconstructing data silos and enabling seamless data sharing across departments, improving pressure sensor and flow meter production yield from 88% to 95%.

Technical Skills

- SQL (SQL Server, MySQL, PostgreSQL)
- Data Visualization (Tableau, Power BI)
- Data Cleaning and Preprocessing
- Azure Data Factory & Databricks
- Python programming
- Statistical Analysis
- Predictive Modelling
- JIRA/Confluence
- R programming
- Report Writing/Presentation
- Machine Learning techniques
- Git/Bitbucket

Freelance Projects

TikTok Video Classification: *TVC GitHub Link*   12/2023

Built and optimized a predictive logistic model to classify TikTok videos as claim vs opinion. Plotted histograms and heat-maps of various metrics of user engagement to determine most correlated variables in the data. Split, train, and test data, creating a confusion matrix to visualize the results of the model.

Housing Prediction Model: *HPM GitHub Link*   10/2023

Built and optimized a predictive regression model of housing prices with historical CA housing data. Identified and removed outliers from the dataset. Created and modified the attributes of the data (feature engineering) to input into the model that is most relevant to predicting median-house-value.

COVID-19 Retrospective: *Cov19 GitHub Link*   09/2023

Explored and visualized COVID's most affected countries, highest death rates, and fastest vaccination rates. Explored and sliced the dataset with various SQL queries. Exported tables to CSV files for later importing to Tableau Desktop. Published visualization to Tableau Public *LINK*.

Bike Sharing Analysis: *BSA GitHub Link*   07/2023

Exploratory data analysis to identify key metrics and trends to inform and drive appropriate marketing strategy. Scraped the public data sets from the AWS S3 bucket. Loaded the CSV files with fread() and used rbindlist() to merge individual data sets together. Explored data by generating aggregate descriptive statistics.

Education & Certification

Google Advanced Data Analytics Certificate   *Google Data Analytics Certificate*
Master of Arts – *Physics* - Bryn Mawr College   **Bachelor of Science -** *Applied Physics* - UMBC