

AHMED L. RASHED

Lynn, MA 01905 | 781-309-7560 | [LinkedIn Profile](#) | [GitHub Portfolio](#) | arashed07@gmail.com

Professional Summary

Highly analytical and process-oriented data cruncher with over 10 years of experience. Clean and efficient coder, adept in using SQL, Python, and R for data mining, data modeling, statistical analysis, business intelligence gathering, trending, and benchmarking. Achievements include implementing ML models on device telemetry to pre-emptively classify CTQ device failures before Final Test, cutting rework times by 25% and increasing throughput by 10%.

Technical Skills

Data Analytics: SQL, R Programming, Python, Tableau, Power BI (PowerQuery, DAX), Statistics, Excel (XLOOKUP, Slicers).

Database & Project Management: EDA, ETL, SQL Server, Azure Data Studio, Google BigQuery, Agile, Scrum, JIRA, Git.

Business Intelligence: Collaboration, Continuous Improvement, Data Cleaning, Data Visualization, Data Presentation, Requirement Gathering, Problem Solving, Root-Cause Analysis, Turning Questions into Queries and Data into Insights.

Education & Certification

Google Advanced Data Analytics Certificate

[Google Data Analytics Certificate](#)

Master of Arts – Physics - Bryn Mawr College

Bachelor of Science - Applied Physics - UMBC

Work Experience

Data Analytics Consultant

HENNY PENNY

REMOTE- OH

11/2022 - present

Implemented **data hooks** in production test stand software to identify **key metrics** and **transform raw data** into meaningful, **actionable information** through **automated extraction** and **standardized reporting**.

- Created various **Python scripts** (numpy, pandas) using **SQL** (complex joins) to **extract and analyze** factory data, enhancing build quality and saving Mfg engineers over 15 hours each week in manual data manipulation.
- Collaborated with test engineers to develop **ETL processes** to facilitate the **movement of data** between systems, **identifying patterns and insights** in the data, reducing failure rates from 35% to 2%.

Key Project: Created python utility to extract and transform data from TestStand SQL database schema into flat CSV files.

- Tools Used:** SQL Server Management Studio, T-SQL, Python, PYODBC, Pandas.
- Results:** 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

Developed and integrated **data-driven metrics** into existing TestStand system to optimize Mfg process.

- Implemented **Python predictive analytics** (Scikit-learn) on test-unit data streams to **pre-emptively classify CTQ** device faults before Final Test, cutting rework times by 25% and increasing throughput by 10%.
- Deployed Mfg **Statistical-Process-Control dashboards**, improving first-pass-yield rates from 75% to 95%.

Principal Test Engineer

MKS INSTRUMENTS

Methuen, MA

03/2021 - 06/2022

Managed test station software projects, **ensuring quality and reliability** of software through comprehensive **testing and analysis**. Picked up **Python** and **SQL** on-the-job to drive enhanced **data analysis and visualization** for Tech Ops and Business Unit teams, creating compelling **data-driven reports** to upper management.

- Extracted and extrapolated Mfg 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.
- Monitored **key performance metrics** and used data to **identify actionable opportunities** to increase efficiency and make **high-quality decisions** that drive performance improvements, boosting first-pass yields by 33%.
- Designed and built **statistical analysis models** on large data sets using Minitab and **Azure Data Studio** that helped reduce product rework and post-processing test-time by 15%.

In addition to sustaining production, incorporated extensive upgrading and overhauling legacy product lines. Reverse-engineered original R&D code, rewriting the architecture of test software into **robust, data-driven, user-friendly applications**, improving the quality, reliability, and efficiency.

- 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.
- 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.

Key Projects

Housing Prediction Model:

[HPM GitHub Link](#)

10/2023

Built and optimized a predictive regression model of housing prices with historical CA housing data.

- **Tools Used:** Jupyter Notebook, Pandas, Pathlib, Matplotlib, Seaborn, Scikit-learn.
- **Approach:** Identified and removed **outliers** in 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. Tweaked and tuned Linear, GridSearchCV, and RandomForest Regressions to achieve 83% accurate predictions.
- **Results:** Evaluated RandomForest Regression as the best overall model to predict 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.

- **Tools Used:** Azure Data Studio, T-SQL, Tableau, Interactive Data Visualization.
- **Approach:** Explored and sliced the dataset with various SQL queries. Exported tables to CSV files for later importing to Tableau Desktop. After exporting and visualizing, we discovered an error in the calculations. New_Vaccinations included both initial AND booster shots, which resulted in Running_Percent_Vaccination going over 100%. Therefore, we had to go back and reformat our query to use people_vaccinated instead of new or total vaccinations.
- **Results:** 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.

- **Tools Used:** R, RStudio, Data Extraction, Data Cleaning, Data Transforming, Data Interpretation.
- **Approach:** Scraped the public data sets from the AWS S3 bucket. Loaded the CSV files with fread() and use rbindlist() to merge the individual data sets together. Transformed data by adding calculated columns. Generated aggregate descriptive statistics of categorical and numerical comparisons to identify A vs B populations.
- **Results:** Minor trends in weekday vs weekend usage. Exported data for further time-series analysis.