DA Score Package v1.0

Documentation

# Get Started (Simple)

To get started with the DA Score Package quickly and easily, download the ZIP file from the GitHub repository and place the unzipped folder in your desired location.

1. Config.py
   1. data\_path: Set this to be the location of where you are placing the DA Score Package folder
2. Place your scenario files into the “Input” folder
3. In a terminal, run “main.py”
4. View results in the “Output” folder in the Data folder

# Get Started (Advanced)

To take a deeper dive into the package, perform the same steps as in Get Started (Simple) in addition to the steps below:

1. Go to data\_handler.py

# Package Structure

Main.py: This is the entry point for the program, it calls the Data Handler file to extract the input files and process the logs to calculate the DA scores.

Data\_handler.py: This file takes care of the input and processing of the scenario data, along with calculating the DA score for each scenario. In terms of customization, this file does not need much unless additional metrics are required, outside of those that calculate the DA score. In the process\_scenario function, the program goes row by row for each scenario and calculates the value of each metric and magnitude in that instance. Once the scenario has been analyzed, the largest magnitudes are recorded and the DA score is calculated. Please see SAE J3237 for further information.

Config.py: This file is the central location for all variables that would need to be changed to customize the DA score calculation process, in order to reduce the number of locations where changes would have to be made.

Utils.py: This file contains all the helper functions that are needed for the DA score calculation to run smoothly.

Metrics.py: This file contains the metric calculation functions for the metrics that are in SAE J3237. If additional metrics are needed, their calculation functions should be added here.

Magnitudes.py: This file contains the magnitude calculation functions for the metrics that are in SAE J3237. If additional magnitudes are needed, their calculation functions should be added here.

Vehicles.py: This file contains the class for vehicles, in order to organize the attributes and functions related to the entities in scenarios. Although the class is named “vehicle”, this can be used for pedestrians or other salient objects.

Visualizations.py: This file contains the functions related to visualizing the scenarios as they happen as well as the graphs that are saved once the scenarios are processed.

Folder: integration: This folder contains the integration files that are used for scenarios. Integration files are used to make organizing scenario groups together easier. For example, you can create an integration file for a group of scenarios that contain 5 vehicles and a pedestrian, and another integration file for a group of scenarios that contain only 2 vehicles with a different set of columns in the input data. The integration file is referred to in the data\_handler.py file.

Folder: data: This folder contains the input and output files for scenarios.

# Example Guide