AIWeerFile – Idle project

**Goal** Find correlations between traffic data and weather data to build traffic forecast models based on weather predictions

**General learning objectives** All facets of data science and AI (i.e. data collection, cleaning, visualization, analysis, modelling)

**Software learning objectives** API requests, SQL databases (e.g. PostgreSQL) Python (Pandas/NumPy/matplotlib, Python dash/plotly, BI dashboards (e.g. PowerBI/Tableau)

**Project description** No day passes by without any traffic which makes it together with the weather the main two topics of talk at the Dutch coffee machines. The large amount of traffic is of course annoying and highly inefficient, however from a data analytics perspective it is a goldmine. All the traffic information is free available online and can be gathered for this data science project. Next to that various weather APIs exist which can be requested for the corresponding weather information.

The first step of the project is to collect all the traffic data and weather data in a useful and cleaned up database format after which the inspection of the data can start. For the data inspection interactive dashboards can be made to visually detect potential correlations between specific traffic information like length and duration on one hand and specific weather conditions (e.g. temperature, rain, sunshine, etc.) on the other.

In a later state, in depth statistical analyses will be done to quantify the correlations and eventually build and validate predictive models for traffic characteristics based on weather forecasts.

**Further ideas**

* Build an (SQL/noSQL/MongoDB) database containing all the cleaned data
* Build a backend API around the SQL database which can be queried by the dashboard

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