IDS Structure

# Structure

The IDS is divided into different python modules:

* **INPUT\_MODULE**: Manages input streams and transforms data into pandas dataframes.
* **PRE\_PROCESSING**: Gets dataframes from ***INPUT\_MODULE*** and do all preprocessing needed before going into the machine learning algorithms.
* **MASTER**: Main file, runs other modules, pass and gathers data to and from ***SLAVES***, decides, and sends results to ***POST\_PROCESSING***.
* **SLAVES**: These modules are defined inside a slaves folder, every python file inside slaves folder would be considered a AI slave and will run. To be able to run, it MUST have a ***run(X ,Y)*** function where X is data and Y are labels.
* **POST\_PROCESSING**: Gets results and do any needed post processing.
* **OUTPUT\_MODULE:** Gets results from post processing and sends it to its destination.

The way post and preprocessing modules are built allow them to be stackable. So, you could have multiple processing steps to be mor dynamic in case different inputs are needed or different ***SLAVES*** require different processing.

As a clarification and for this system to work properly, preprocessing functions must always return a dataframe.

