

trendingBot is a trend-finding approach which was created (its proof-of-concept version) from two main ideas:

- Multivariate analysis is highly conditioned by assumptions and simplifications. Such limitations can be notably reduced by taking advantage from the constantly-increasing availability of computational power.
- A wide variety of people and companies can benefit from a better understanding of random datasets. A relevant number of these potential users do not have the required data-analysis knowledge.

The main algorithm of trendingBot was built on the following assumptions:

- Regression analysis provides a wider range of non-linear answers than any other methodology. For example: probability can be understood as recursive application of 2D linear relationships.
- The exact way in which two or more variables are related is not too relevant (e.g., the simplicity of $A = B+m$ with respect to $A = B^2 + Sqr(3 \cdot B)/B^5$ does not necessarily imply its better suitability). The (in)adequacy of a given relationship can only be determined after a deeper analysis (e.g., overfitting).
- When dealing with a trial-and-error approach, it is recommendable to account for as many different combinations as possible.

The main algorithm of trendingBot is formed by the following parts:

1. All the dependent variables are combined among them and the fictitious variables $Comb_i$ are created. The dependent variables are raised to different exponents and linked among them by relying on various algebraic operations. For example, the following $Comb_i$ might be created from variables A and B : $A \cdot B$, $A+B$, A^2+B , $A \cdot B^{1.5}$, etc.

NOTE: this part is expected to be extended by increasing the number of operations, exponents and even by performing further modifications on the dependent variables.

2. All the $Comb_i$ are interpolated within the training set and the 2D polynomial fits Res_i (i.e., $Res_i = A + B \cdot Comb_i + C \cdot Comb_i^2$) are generated.

NOTE: this part is expected to be extended by accounting for different types of fits (e.g., higher dimensional polynomial, logarithmic, exponential, etc.).

3. Various algorithms analyse the adequacy of all the aforementioned Res_i and rank them according to certain rules.

NOTE: this part is expected to be notably changed on account of its high influence upon the quality of the generated outputs.