

Combination of survey analysis and Machine Learning to understand customers' needs

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1 What is Futurescore.io?

Futurescore.io is a tool that combines client survey with Machine Learning in order to measure and localize the match between designers ideas and future customers' demand. A reliable offer should be built on strong common ground between designers and buyers. Futurescore.io delivers all factual elements to create the bases of a dialogue able to find that common ground. The results support stylist talent and give more confidence to buyers as the tool delivers a clear ranking by product.

2 How does it work?



Create a survey based on the ideas of the future offer whatever the product.

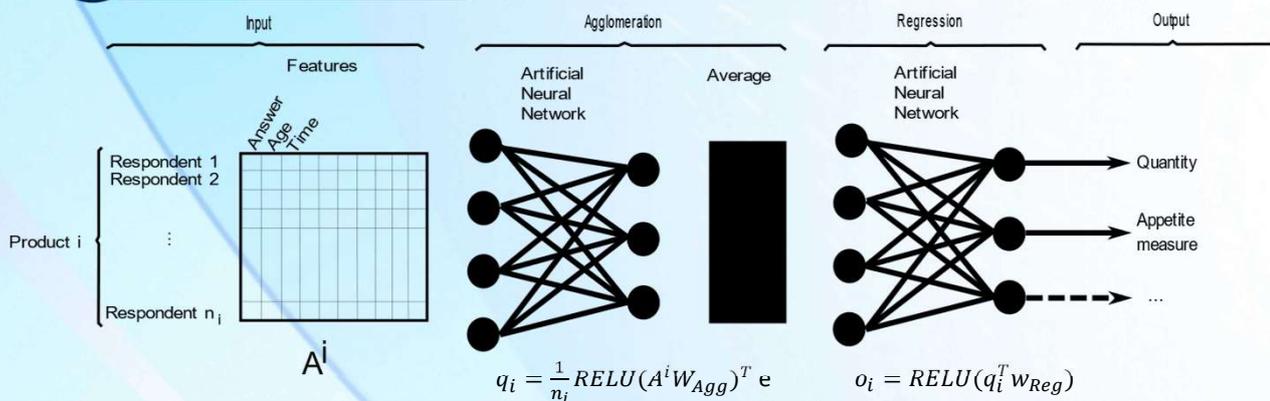
Offer to clients an experience as easy as a game.

Analyze the information treated by our Machine Learning algorithm and make the offer reliable before launching.

3 Objective

Our goal is to determine the quantity of items to buy by product and customers' appetite according to the answer given by respondents. A machine learning algorithm uses structured data in a matrix where each row represents the input and each column represents the features associated to the input. In our case, each product is the input represented in a matrix where a row represents the respondent and the column represents the respondent's characteristics and his answer. We need to change the matrix into a vector in order to apply some machine learning algorithms.

4 Methodology



In the image above, the agglomeration phase is obtained with a fully connected layer and an average layer. Then, we obtain a latent feature vector that feeds the neural network used for regression in order to obtain the quantity or the appetite measure. In the training phase, we use a stochastic gradient descent approach.

5 Results

In the image below, we present the results obtained thanks to this approach from survey data. The x-axis represents the normalized quantity and the y-axis the appetite measure.



6 Conclusion

Using the methodology presented here, we are able to agglomerate survey data to a feature vector that can be used by a neural network to get regression. The interest of this approach is that it allows to get a better insight of respondents answers than a pure average on survey data, and then do regression. Another positive aspect concerning this approach is that we can use this methodology only for training the agglomeration layer. Therefore, we can freeze the agglomeration layer and use any other Machine Learning algorithm than an ANN for the regression.