

Text analysis in research project

“Applications based on IoT & Big Data in the hospital environment”



This report deals with the text analysis applied to the research project “Applications based on IoT & Big Data in the hospital environment” of the proposals received by the medical staff of Infanta Sofía and Son Llàtzer hospitals in order to improve relations with the institution and working conditions.

The complexity of the proposals has required the following processing and analysis:

- 1.1 Sentiment analysis.
- 1.2 Entity analysis.
- 1.3 Syntax analysis.
- 1.4 Text classification.

Once the analyses have been carried out and all the possibilities investigated, with the special characteristics that concur in them, the following conclusion has been reached:

- The words that have been used the most in order of importance have been work, personnel, professionals, hours, attention or decrease. This compared with the analysis of feeling leads to the conclusion of a clearly negative thought.
- Infanta Sofía hospital has a higher degree of involvement and burnout compared to the Son Llàtzer hospital. Users with Fitbit wristband have made a higher participation pouring proposals.
- It has been detected that the variables sleep and heart rate do not have a direct relationship with the burnout syndrome but they do have it with the proposals written by the medical staff. On the other hand, the enriched variable of meteorological data can be decisive in the positivity of the text in proportion to its negativity.
- It has been possible to classify and predict whether a doctor can have burnout or not based on a proposal with a very high precision A DOCTOR DOESN'T HAVE BURNOUT, needing a higher data source to predict A DOCTOR HAVE BURNOUT.

In Madrid, on September 28, 2018.

Jesus Garcia

Engineer and researcher of eBurnout