

# Deep sequential triage of emergency medical call incidents under the presence of data drift

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## Abstract

The use of Deep Learning in clinical decision support systems is a powerful tool to improve the quality of medical care across different disciplines. However, medical data is very mutable, and, as such, changes over time, making top-performing models obsolete in a matter of years or even months.

The sequence of decisions in a triage tree in emergency telephone calls is one of the current problems facing the sector. This decision time can be vital as well as the final outcome is chosen. In this paper, we will discuss how to implement a model that allows these decisions to be made in order to support the decision-makers.

During the process, a thorough analysis of the data has been made in order to clearly determine how to approach the problem. Finally, we have chosen to deal with the data drift problem present in our database by training an embedding model that also allows us to solve the problem of out-of-vocabulary words. The outputs of this model will be the inputs of a final model that will be in charge of the final classification of whether or not there is a vital risk in the different emergency calls.

After several experiments, it has been observed that the previous use of embedding models is useful in the performance of the final model.

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