Group S16-32
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Abstract

Our research develops a machine learning model that will classify statements spoken during hospital operations twice. The first classification will be the intent of the statement: (1) Request for information, (2) Report or Response, (3) Command. The second classification is more specific and related to the topics of the utterances, doing it in a two step process. First the model classifies the utterances into four main categories: (1) Primary examination, (2) Secondary examination, (3) Transfer, (4) Pre-hospital events. Once the utterances are split into these four larger categories, each one is then classified even further, resulting in a total of 41 secondary classifications.

We believe that this classifier is useful for medical researchers who are looking to analyze many hospital resuscitations. By analyzing the utterances of a resuscitation, researchers can learn more about how the hospital employees perform under stress as well as the general flow of events for each type of resuscitation. This can lead to efficiency analysis and can help to mitigate errors as they happen.

A hospital has transcribed many resuscitations into spreadsheets which provide us with the dataset we need to develop a machine learner. We make use of specific features and several machine learning methods, such as Ridge classifier and linear SVC, in order to create a model with acceptable accuracy.