CIL 2018: Text Sentiment Classification

Pirmin Schmid, Philip Junker, Nikolas Göbel, Aryaman Fasciati
The Optimists
Department of Computer Science, ETH Zurich, Switzerland

***Abstract*—Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.**

I. Introduction

The goal of this project is to build a sentiment classifier that predicts whether a tweet text used to include a positive smiley :) or a negative smiley :(, based on the remaining text.

Our first baseline uses random forests and achieved an accuracy of 72%. Our second baseline uses a Recurrent Neural Network (RNN) model with an accuracy of TODO%.

In a third model, we refined our second baseline, incorporating TODO: describe novel approach, in a RNN-based approach. This model achieved TODO: % accuracy.

II. Related Work

Write about related work [1]

III. Models

A. First Baseline (B1)

Our first baseline uses a random forest model with unlimited max_depth and 20 estimators. Each tweet is represented by the the average of its word embedding vectors. We used pretrained GloVe [2] embeddings from Stanford, together with a slightly adapted version of the preprocessor script provided by Stanford. Words that are not in the vocabulary are ignored.

This model achieved an accuracy of 72%.

B. Second Baseline (B2)

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References

[1] D. Silver, A. Huang, C. J. Maddison, A. Guez, L. Sifre, G. Van Den Driessche, J. Schrittwieser, I. Antonoglou, V. Panneershelvam, M. Lanctot *et al.*, "Mastering the game of go with deep neural networks and tree search," *Nature*, vol. 529, no. 7587, pp. 484–489, 2016.

[2] J. Pennington, R. Socher, and C. D. Manning, "Glove: Global vectors for word representation." in *EMNLP*, vol. 14, 2014, pp. 1532–43.