

Capstone Project

Aspect based Sentiment Analysis for Financial News

Problem:

Classifying sentiment with multiple entities in a headline. For example, "Opec reduces estimate on oil demand growth" could be classified as {"oil": "negative", "opec": "neutral"}. Parsing statements to this level allows a statement to be analyzed in detail, which in turn accepts a more subtle prediction if used for forecasting.

There are, of course, analogous use cases for aspect based sentiment analysis in customer reviews, such as "the food was great, but the service was terrible". This statement would be difficult to classify simply as positive or negative, and neutral would be a misrepresentation of the text at a granular level.

Dataset:

<https://www.kaggle.com/datasets/ankurzing/aspect-based-sentiment-analysis-for-financial-news>

The Dataset is

Academic Resources:

Parameterized Convolutional Neural Networks for Aspect Level Sentiment Classification

<https://arxiv.org/pdf/1909.06276.pdf>

Aspect-Based Financial Sentiment Analysis using Deep Learning:

<https://dl.acm.org/doi/pdf/10.1145/3184558.3191827>

Improving Aspect-based Sentiment Analysis with Gated Graph Convolutional Networks and Syntax-based Regulation

<https://arxiv.org/pdf/2010.13389.pdf>

Applications of Deep Neural Networks with Keras:

<https://arxiv.org/pdf/2009.05673v5.pdf>