TECHNISCHE UNIVERSITÄT DRESDEN

ScaDS.AI DRESDEN LEIPZIG

Project 2

SemEval: Emotion Detection

Given a sentence or a short text, determine the emotion a speaker may be feeling.
SemEval 2025 Task 11-A

Project Description

Given a target text snippet, predict the perceived emotion(s) of the speaker. Specifically, select whether each of the following emotions apply: **joy, sadness, fear, anger, surprise, or disgust.** This task is part of the SemEval 2025 competition.

We often say one thing when we mean another, especially when we express sadness or anger. We use language in subtle and complex ways to express emotion and people are highly variable in how they perceive and express emotions. Thus, we can never truly identify how one is feeling based on something that they have said with absolute certainty.

The fundamental problem here is a **multi-label classification of text input.** However, the challenge arises because emotion recognition is not as simple as recognising the emotion of the text, but detecting what the speaker is feeling.

1. Follow the instructions here to download the data. This requires signing up to the Codabench platform because the dataset is not public.
2. The dataset is available in many languages. You could choose one of these, or build a multilingual model that can handle multiple languages.
3. Understand the sentence classification training task that BERT and its variants (RoBERTa, ALBERT etc) are often trained with. You can then modify one of these to output class labels by adding a classification head.
4. The evaluation metric used in the competition is the **F-score** based on the predicted labels and the gold labels. In addition to this, design an evaluation metric that compares the performance of your model against a human.
5. Look into the explainability analysis of your model by performing SHAP.

Bonus Tasks

Extend your model to predict the intensity for each of the emotion classes, given a target text and a target perceived emotion.

The set of ordinal intensity classes includes: 0 for no emotion, 1 for a low degree of emotion, 2 for a moderate degree of emotion, and 3 for a high degree of emotion.