École Polytechnique

BACHELOR THESIS IN COMPUTER SCIENCE

Emotion Recognition in Conversation through Emotion Flow

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Abstract

Emotion Recognition in Conversation (ERC) is a very important domain, which has been gaining more attention in recent years, especially within NLP. In the scope of Emotion Recognition, identifying emotions in dialogues plays an essential role. This is because most of the emotional text data collection happens in the context of a conversation between two or more parties (e.g. customer service survey). In this paper we discuss the limitation of previous approches to the ERC task, while also evaluating an original approach to the same problem using Causal learning, which we identify as the Emotion Flow and attention mechanisms. (initial version)

Contents

1   Introduction

Emotions can be defined as one's psicological state. Sometimes, it can be very subtle, volatile, and even ambiguous depending on the context. For instance, joyfulness, happiness, and love are generally considered similar, sometimes only begin distinguished by intensity. So, the task of identifying these emotions are not always trivial even from a human perspective, so this is why Emotion Recognition has become so important recently. Within this area, Emotion recognition in text plays a significant role, since it can be leveraged in many different contexts, e.g. customer's service, catalogue algorithms, etc (add more examples).

In this context, studying Emotion Recognition in Conversation (ERC) is very relevant, because the flow of words can generate a flow of emotions, and they work together to convey meaning to a conversation. This is a very challenging task, because exploiting contextual information has its limitations. And previous works haven't explored properly how the flow of emotions in a conversation (e.g. the graph describing the emotional changes throughout a conversation) relate with contextual information.

(ADD PICTURE DEPICTING EMOTION FLOW)

2   Related Work

3   Discussion (name subject to change)

4   Datasets used

5   Our Approach / Methodology (Absolutely going to change this title)

6 References

[1] Alan M. Turing. On computable numbers, with an application to the entscheidungsproblem. *Proc. London Math. Soc.*, s2-42(1):230–265, 1937.

A   Appendix