Computational Argumentation SS2020

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"The complexity of arguments used in practical discourse keeps scholars searching for new theories and models. The main difficulty lies in the fact that in practical discourse we try to order our social environment on the basis of normative standards such as rules, principles and values, but these standards are not easy to apply to concrete cases. On the one hand, these standards always have to be interpreted in the light of the ever-changing world they are supposed to keep in order. On the other hand, even when it is crystal clear what a certain standard means in the light of a certain case, it always remains to be seen whether other standards or considerations stand in the way of its application." [15].

1 Introduction

In this seminar, we will discuss research in the area of (applied) *computational argumentation*, which is a fairly new topic that has quickly garnered much attention in NLP.

2 Requirements to pass the course

1. Participation in our weekly heiconf-meetings.
2. Presentation of a research paper (max. 25 minutes + max. 10 minutes discussion).
3. Participation in a small annotation experiment. We want to see if we can reliably assess argument convincingness.
4. either i) a short write-up (3 to 4 pages) that summarizes and assesses one research paper or a write-up that compares two research papers with similar topics, or ii) a small implementation project with a technical report of the experimental settings and the results.

3 Schedule

First meeting Introduction.

Subsequent meetings After the first session, we will try to roughly stick to the following agenda.

- **7.5.2020, 2 presenters:** We will discuss the Toulmin model [16, 15, 17] that provides a general (but underspecified) argument representation. What is a *warrant*, what is a *claim*, what is a *rebuttal* and how are they linked with each other? What are the weaknesses and strengths of this representation model? And then, likewise, we will discuss a Dung-style framework [2] that allows for logical inference.
- **14.5.2020, 2 presenters:** We will discuss two survey papers that enable us to get a quick overview over our topic: [12] and [8].
- 21.5.2020: holidays.
- **28.5.2020, 1 presenter:** Extracting argumentative structures from student essays [14].
- **4.6.2020 2 presenters:** The argument reasoning comprehension challenge [5] and issues that have emerged in its context: spurious clues in the data [9].
- 11.6.2020: holidays.
- **18.6.2020, 2 presenters** Argumentative relation classification. In a joint inference model [6], with background knowledge [7] or with language models [10]. Or about the importance of *context* and *content* [11].
- **25.6.2020, 2 presenters** Walton's argumentation schemes. Theory: [19]; First practical steps: [3].
- **2.7.2020, 2 presenters** Towards (shallow) explanations: Good/Bad templates [13] and End-to-end Argumentation knowledge graphs [1].
- **9.7.2020, 2 presenters** Catch-up presentations (presentations that were postponed for various reasons)
- **16.7.2020, 2 presenters** Argument quality dimensions [18] and a large-scale data set for argument quality ranking [4].
- **23.7.2020, 1-2 presenters** Topic of your choice.
- **30.7.2020, No presenter** Data science time (analysis of our annotation experiment's outcomes). Discussion of homework, project or other open questions.

References

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