Argument Strength Computation Based on Satisfiability Degree and Agents' Beliefs

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Abstract: This paper presents an agent-based argumentation framework. Different from probabilistic, fuzzy and weighted approaches, this framework considers the strength of arguments and attacks from two aspects: the inner structure of arguments and the beliefs of agents. A key concept in this framework is the notion of satisfiability degree, which is used to define the intrinsic strength of attacks and the extrinsic strength of arguments. These two kinds of strengths are combined into the degree of attack/support. Then, new semantics of this framework are defined and the relation with Dung's approach is discussed.