Elements of Argumentation

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Abstract. Logic-based formalizations of argumentation, that take pros and cons for some claim into account, have been extensively studied, and some basic principles have been established (for reviews see [1–3]). These formalizations assume a set of formulae and then exhaustively lay out arguments and counterarguments, where a counterargument either rebuts (i.e. negates the claim of the argument) or undercuts (i.e. negates the support of the argument). Recently attempts have been made to refine these formalizations by using techniques for selecting the more appropriate arguments and counterarguments by taking into account intrinsic factors (such as the degree of inconsistency between an argument and its counterarguments) and extrinsic factors (such as the impact of particular arguments on the audience and the beliefs of the audience). In this presentation, we consider the need to take intrinsic and extrinsic factors into account, and then consider ways that this can be done in logic in order to refine existing logic-based approaches to argumentation. These refinements offer interesting options for formalizations that may better capture practical argumentation for intelligent agents [3].

References

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