

Logic-Based Ranking of Assertions in Inconsistent ABoxes^{*}

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Abstract. This talk concerns the problem of inconsistency in knowledge bases caused by ABox assertions. If such inconsistency occurs, users may be asked to rate the truthfulness of one or more ABox assertions. A potential difficulty is that users may not well understand how different ABox assertions interact (and possibly conflict) with one another through the TBox axioms. We therefore introduce a principled framework that uses TBox axioms for inferring positive and negative support for ABox assertions. This leads to a system of linear equations whose solution enhances the user's truthfulness rating by means of logical information from the TBox. Since this solution maps ABox assertions to real-numbered truth values, it differs from approaches that use crisp truth values.

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