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The Temporal Dynamics of Belief-based Updating of Epistemic Trust: Light at the End of the Tunnel?

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Abstract

We start with the distinction of outcome- and belief-based Bayesian models of the sequential update of agents beliefs and subjective reliability of sources (trust). We then focus on discussing the influential Bayesian model of belief-based trust update by Eric Olsson, which models dichotomic events and explicitly represents anti-reliability. After sketching some disastrous recent results for this perhaps most promising model of belief update, we show new simulation results for the temporal dynamics of learning belief with and without trust update and with and without communication. The results seem to shed at least a somewhat more positive light on the communicating-and-trust-updating agents. This may be a light at the end of the tunnel of belief-based models of trust updating, but the interpretation of the clear findings is much less clear.