Subjective Logic

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June 12, 2020

1 Introduction

- Probabilistic logic.

- Subjective logic as probabilistic logic with uncertainty and subjectivity.

- Main question of this investigation: Can we use Subjective Logic to improve the model?

- Summary.

2 Opinion representation

- Elementary definitions

  - Domain and Hyperdomain
  - Belief mass distribution (prior) and uncertainty
  - Projected probability distribution (posterior)

- Binomial opinion and example

- Multinomial option and example

- Hypernomial opinion and example

3 Computational trust

This is an overview. Nothing formal. (Maybe it will be if I have time.)

- Definition of trust. (Influence?)

- Trust transitivity. (Update function?)

- Belief fusion. (Overall update function?)

4   Next questions

When I was reviewing the book, I found something that I may have got wrong about trust transitivity. I'm not sure if the example I told at the meeting is possible in SL.

- Suppose that an agent A trusts an agent B (ω_B^A), and B trusts X (ω_X^A). Can the carnality of the domain of ω_X^A be greater than 2? (At the meeting, assumed yes. Now I'm not sure.)

- Is there a way (an operator) to consider the trust of an agent A when they obtain another trust opinion (from trust transitivity)?

  - If yes, can this operator have the same properties as the rational belief update?
  - If not, can we create an operator that has the same properties as the rational belief update?