

Why is a raven like a writing desk?

Latent Normative Dimensions of Classifiers



Presenter:
J. Scott Cardinal

Growing concerns about systematic biases in AI, and its ethical implications, require more than improvements to algorithms and data quality.

The Mad Hatter's riddle was *intended* to be nonsensical – there is nothing that *innately* links a raven and a writing desk. The human mind immediately recognizes the incongruity...

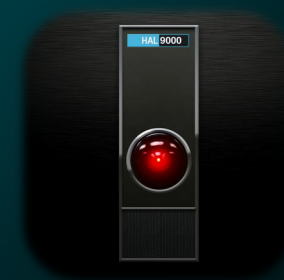
...an algorithm, however, would assign a link if it is designed to assume there is one.

Human language and cognition embeds significant amounts of *associative* semantic information. These latent dimensions of meaning are incorporated into how we classify the world around us.

The biases are not in the algorithms or the training data, but implicit in how we *ourselves* attribute latent meanings to classifiers.



To reduce **bias** in AI,
distinguish between
what is truly **innate**
and what is merely
associated.



Semantics:

- Formal logic of meaning
- Lexical referents
- Structure of concepts

Ontology:

- Innate nature of entities
- Relational attributes
- Defining characteristics

Normative Context:

- Associative semantics
- Standard expectations
- Implication and imputation

Sources of Bias:

- Latent associations
- Imputed characteristics
- Poorly bounded referents
- Ontological ambiguities

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