

# NATURAL LANGUAGE PROCESSING IS HARDER THAN YOU THINK

**CHALLENGES AND  
CONSEQUENCES**

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Have you ever been **disappointed** by a  
\$NLP\_SYSTEM?



ambiguous

complex

**Language is hard!**

fluid

...



**They saw a vet with a telescope.**



They saw a vet with a telescope.



They **saw** a vet **with** a **telescope**.



They **saw a vet** with a telescope.



# Four of the Key Issues and Challenges in NLP

Languages matter





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Languages matter

Context matters



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Languages matter

Context matters

Data matters



# Four of the Key Issues and Challenges in NLP

Languages matter

Context matters

Data matters

(Hidden) Biases matter



# Four of the Consequences

Bad user experiences!

False, potentially dangerous, results and conclusions!

Marginalization of languages and speakers!

Reproduction and reinforcement of social norms and stereotypes!



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