A Dataset of Sustainable Diet Arguments on Twitter

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Sustainable diets

“Transformation to healthy diets by 2050 will require substantial dietary shifts. Global consumption of fruits, vegetables, nuts and legumes will have to double, and consumption of foods such as red meat and sugar will have to be reduced by more than 50%. A diet rich in plant-based foods and with fewer animal source foods confers both improved health and environmental benefits.”

https://eatforum.org/

Can AI convince consumers of diverse backgrounds to change their habitual behavior?

What characterizes successful arguments for behavior change in public discourse?

Data Collection and Annotation

1. Manual list of patterns for each topic
2. Retrive a set of English tweets
3. Randomly sample 2000 tweets and combine them with 347 IR tweets
4. Total corpus of 32840 tweets

Amazon Mechanical Turk

5 workers per instance

Completed in 4 rounds

597 tweets for 5 topics

97 Tweets Arg

Types of evidence

- Anecdotal: A description of an episode(s), centered on individual(s) or clearly located in place and/or in time.
- Expert: Testimony by a person, group, committee, an organization with some known expertise/authority on the topic.
- Study: Results of a quantitative analysis of data, given as numbers, or as conclusions.
- Fact: A known piece of information without a clear source, regardless of whether it is a true fact or not.
- Normative: Description of a belief or value the author holds.

Results summary

XGBoost is a strong starting point for argument mining

IBM Debater API a robust zero-shot model for argumentation tasks

Examples

We are on the green bean diet here, too! I love them. Mom hasn’t tried broccoli yet.

Hey eco-friendly! The well known high-carbon company McDonald produces 1.5 MILLION tonnes of food packaging alone. 😥 Fun fact carbon footprints are important! Tune in for more behind closed door stats!

The dangers of this thing is that our vegan extremists will start interfering in this.

Give your children healthy food to avoid the dad bod haha

Not argumentative

Pro claim + normative evidence

Argumentative but unrelated

Con claim + normative evidence

Potential applications

- Surveying public attitudes and exposing misinformation
- Generation of convincing arguments for communication campaigns
- Understanding public knowledge of sustainable diets

Code and data:
https://github.com/danielhers/sustainable-diet-arguments-twitter

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