UC Merced

Title
Common sense reasoning about credibility

Permalink

Journal

Authors
Hu, Peiyao
Ho, Mark K

Publication Date
2024

Peer reviewed

Common sense reasoning about credibility

Peiyao Hu
Stevens Institute of Technology, Hoboken, New Jersey, United States

Mark Ho
Stevens Institute of Technology, Hoboken, New Jersey, United States

Abstract

We often rely on others' testimony when learning about new topics, such as health benefits of a novel food. However, the sources are not always knowledgeable, helpful, or unbiased, necessitating an assessment of their credibility. Here, we present a Bayesian model of source credibility, where a listener simultaneously infers the expertise and intention of the source while trying to discern the truth. A key prediction is that rational inference of credibility requires anchoring it on some kernel of shared knowledge. We consider a scenario where both parties have noisy access to the ground truth of familiar topics (e.g., is broccoli healthy?), which serves as a basis for reasoning about a source's credibility on novel topics (e.g., is avocado healthy?). This approach provides a computational framework for understanding how people respond to information in domains like science communication and media consumption.