

Case ID:M20-078P^

Published: 6/18/2020

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FakeNewsNet: A Data Repository with News Content, Social Context, and Spatiotemporal Information for Studying Fake News on Social Media

Background

Social media has become a primary source of news and can play a large role in the spread of fake news. Fake news can disturb the authenticity balance of the news ecosystem and persuade consumers to accept false information as true. To combat its spread, research into the detection of fake news has accelerated. However, most existing datasets for fake news detection only focus on linguistic features, with few containing both linguistic and social context attributes. Also lacking are spatiotemporal information to understand how fake news propagates over time across different regions, as well as how users react to fake news.

Invention Description

Researchers at Arizona State University have developed FakeNewsNet, a new multi-dimensional data repository that combines news content, social context, and spatiotemporal information. As such, the repository represents a valuable tool for in-depth study into the nature and detection of fake news. News content is obtained from fact-checking websites, while time-stamped user engagement, demographics, and metadata are extracted from social media platforms. The dataset is accessible through an API allowing users to segment and download specific subsets of data for more efficient processing.

Potential Applications

- Fake news detection and mitigation
- Malicious social media account detection

Benefits and Advantages

- Novel – To the best of the inventors' knowledge, this innovation represents the first combination of linguistic, social context, and spatiotemporal information
- Complete – Includes visual news content and social context

- Enabling – With periodic updates, allows fake news to be comprehensively analyzed on an ongoing basis

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