Modeling Memory Illusion
for Predicting Trust in Online Information

Challenge:

- Disclose factors contributing to people's belief in online misinformation
- Incorporate those factors in large scale to improve machine learning models/algorithms for misinformation detection and prevention

Solution:

- Use big data and data driven machine learning algorithms to *identify and characterize real-world examples of memory illusion in the context of online misinformation*
- Conduct human subjects experiment to *validate the identified characteristics in people's belief in misinformation*
- Develop and validate machine learning models to *predict and prevent associatively inferential misinformation*

Memory illusion: AB & BC → AC

One Twitter user first viewed a piece of news of AB (top row), and viewed another piece of news of BC (center row). Later, the Twitter user posted comments revealed her/his belief in the *associative inference* of AC (bottom row), which was a piece of verified fake news.

Scientific Impact:

- Advance the machine learning approach to detect misinformation and susceptible users with an additional human-information prospective
- Improve the understanding of human behavior using a big data approach

Broader Impact:

- Benefit society by providing reliable online information
- Increase people's overall trust in information on social media
- Graduate and undergraduate students will participate in theory-based interdisciplinary research regarding the relations of information veracity, trust, and information context