A marked Hawkes process for modeling and detecting fake news on social media

Stefan Feuerriegel

(Munich School of Management, LMU Munich)

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Fake news poses a threat to society and, hence, researchers seeks to model – and detect – fake news on social media. In this work, we develop a mixture marked Hawkes process to model the different spread of true vs. fake news. Key is the Hawkes process which captures the self-exciting nature of retweeting processes. Our evaluation is based on 10k retweet cascades of both true. vs. fake news from Twitter. Our model not only predicts fake news better than state-of-the-art baselines from machine learning but is fully interpretable. We discuss several of our findings.

Biography:
Stefan Feuerriegel comes from ETH Zurich and brings an important future topic to the LMU Munich School of Management, as of August 2021. He will head the new Institute of Artificial Intelligence (AI) in Management. Stefan joined ETH Zurich in 2017 as a tenure-track assistant professor in management information systems. A key research area of his group was AI for management. He is an associated faculty member at the ETH AI Center. Previously, he served as a research group leader and PhD student at the Chair for Informtion Systems Research (Prof. Dr. Dirk Neumann), University of Freiburg. During his research stays, he partnered with researchers from the University of New South Wales (UNSW), Sydney, the National Institute of Informatics (NII), Tokyo, McCombs School of Business at the University of Texas at Austin, and Carnegie Mellon University (CMU), Pittsburgh. He has also been invited as a lecturer to teach in the Research Sprint at Berkman Klein Center for Internet and Society, Harvard University.