

1st ACM SIGSPATIAL Workshop on Analytics for Local Events and News (LENS 2017)

Redondo Beach, California, USA - November 7, 2017

Amr Magdy
University of California, Riverside
amr@cs.ucr.edu

Xun Zhou
University of Iowa
xun-zhou@uiowa.edu

Yan Huang
University of North Texas
yan.huang@unt.edu

The 1st ACM SIGSPATIAL Workshop on Analytics for Local Events and News (LENS 2017) was held in conjunction with the 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2017). The workshop is intended to bring together experts from the research community and industry to exchange ideas on opportunities, challenges and cutting-edge techniques for local events and news analytics. The workshop has attracted 12 submissions, including 11 regular research papers and one vision paper, accepted 6 submissions for publications; 5 regular papers and one vision paper, with 50% acceptance rate. The papers are reviewed by 13 program committee members, where each paper is assigned to three reviewers. Total 11 attendants registered for the workshop. The actual number of attendants along the day fluctuated from 11 to 15, with an average of 11 attendants maintained almost all the time. The workshop has achieved its goal with bringing up together experts from both academia and industry with a set of productive discussions and talks.

The workshop has featured two excellent keynote speeches, one from academia and one from an industrial research lab. Both keynote speeches included very fruitful discussions with the workshop attendants that ended up with identifying some of future directions and challenges to address in the workshop scope. We next summarize the workshop content along with listing the identified challenges and future directions.

Our first keynote speaker is Prof. Daniel B. Neill from New York University/Carnegie Mellon University's Heinz College. His talk discussed his work on "*Event and Pattern Detection at the Societal Scale*" where he combines machine learning with public policy to address crucial societal applications such as public health, public safety, and community security. The keynote mainly discussed scaling up pattern detection in two aspects. The first is the *computational methods* that are used to process large amounts of data that are generated by the societal applications. The second is *complex structures* that imposed by real data, e.g., social networks. The keynote has identified three important directions to consider for future research. The first direction is integrating more complex constraints that come from the human aspect of the data. The second direction is investigating new ways to make use of the different types of available data, e.g., images, videos, etc. The third direction is using the existing data beyond the detection to consider more futuristic uses. Examples of that could be tracking origin causes of certain phenomena or studying algorithmic fairness where bias in the output results is eliminated with respect to gender, age, ethnicity, etc.

Our second keynote speaker is Dr. Xiaomo Liu, a Senior Research Scientist in Thomson Reuters Labs. He delivered a very informative talk about "*Reuters News Tracer: Toward Automated Journalism Using Large Scale Social Media Data*". Reuters News Tracer is a big project that aims to two main goal. First, effectively collecting news stories from social media data in real time. Second, differentiating trustful news from fake news. Toward these goals, the speaker has described a plenty of interesting techniques in noise filtering, data annotation, geo-location extraction, news clustering, news summarization, and veracity. The technical contributions of

this project are published in several conferences including ICWSM'15, CIKM'15, CIKM'16, ICDE'17, and BigData'17. The keynote identified several rooms for improvement in the current literature. First, detecting the news event with its four W's (Who, When, What, and Where) is still challenging and need to be enhanced. Specifically, clustering related items to form a news story is still open area of research. Second, news ranking is still challenging because of the plenty of factors it is affected with and the way these factor affect the ranking in different cases. For example, the same event, e.g., Earthquake, in different cities might have totally different wiehgts in ranking the news story. Third, veracity algorithms still have several rooms of improvement.