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Text Mining and Social Media Analysis. New horizon for fake news identification

Abstract

In the era of internet computing, social media offers the possibility to create, receive and share public messages at relatively low cost and ubiquitously in various formats (textual, image /video, sound, geolocation) and across various domains (e.g., politics, entertainment, social, business, crisis management and science). This led to an increasing accumulation of data, often termed as social media big data, which opens up new opportunities for exploring both communication and community patterns, including linguistic, social and network related features for the purpose of individual / community behavior analysis for instance. It has been especially found useful in identifying new trends to interact with customers in business sector; in supporting decision-making processes that rely on performance indicators issued from real time social media data; in predicting the spread of diseases through tracking symptoms in social media data; in gathering intelligence that would prevent occurrence of security threats, among others. Social media analytics has helped governments, political and mass organizations to gain new insights from the communication for deriving useful strategies, organize protests, reach new audience, win new support for their cause and design their future plans accordingly. Nevertheless, this should not hide the negative effect of social media in populating rumor and miss-information or fake news in a way to destabilize the whole community or country, which renders social media analytics task rather challenging. This talk aims to shine the light on this phenomenon and review various strategies that are often used to approach the solution with special consideration to Twitter social media platform. Ultimately, the concept of “new information” is somehow related to the notions of novelty detection in computational linguistics, spam and discourse identification together with leveraging evidence gathered from sources conveying this new-information. Therefore, intuitively, techniques issued from information fusion, filtering, argumentation theory are of interest for this purpose. A set of exemplifications will be employed to illustrate the concept and shed light on new development opportunities.

Biosketch

Dr. Mourad Oussalah is a recently appointed Research Professor in University of Oulu, Faculty of Information Technology and Electrical Engineering, Centre for Machine Vision and Signal Analysis, where he leads the Social Mining Research Group. Prior joining University of Oulu, he was with the University of Birmingham, UK from 2003-2016. He also held research positions at City University of London and KU Leuven in Belgium, and Visiting Professor position in University of Evry Val Essonnes of France (summer 2006), New Mexico of USA (summer 2009) and Xian of China (Fall 2018).

Dr. Oussalah research has concentrated mainly on information and data fusion, text mining, information retrieval and uncertainty handling where he published more than 250 international publications and supervised a dozen of PhD students and more than 40 Msc students, provided more than 20 keynote talks at international conferences and served as PC members of more than 60 international conferences and won best paper awards at IEEE International Conference on Cybernetic Intelligent Systems 2008, WCE, 2015 and best paper nominee at KDIR 2017.

He is a Fellow of Royal Statistical Society and Senior member of IEEE and acted as executive of IEEE SMC UK & Ireland Chapter from 2002 till 2016.

Dr. Oussalah is also leading and participating into several EU projects including YoungRes (#823701) (2019-2021) on Youth polarization, Prince (#815362) (2019-2022) on CBRNE incidents, Cutler (#770469) on Coastal Urban development, CBC Karelia (Finland-Russia) on IoT Business Creation (2018-2020), Grage –Marie Skłodowska-Curie action (ID:645706) (2016-2018) on active ageing and elderly living in urban settings. He also secured funding from several foundations (e.g., Finnish Cancer Research, Nokia and Nuffield foundations).