

No Sentiment is an Island:

Sentiment classification on medical forums

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Abstract. In this study we propose a new method to classify sentiments in messages posted on online forums. Traditionally, sentiment classification relies on analysis of emotionally-charged words and discourse units found in the classified text. In coherent online discussions, however, messages' non-lexical meta-information can be sufficient to achieve reliable classification results. Our empirical evidence is obtained through multi-class classification of messages posted on a medical forum

1 Motivation

A rapid growth in the Internet access from 70% of the population in 2010 to 81% in 2014 has caused an increase in online networking from 38% of the population in 2011 to 46% in 2014¹. European Commission's strategy on Big Data (July, 2014) highlights that "Data is at the centre of the future knowledge economy and society"... and that to seize the opportunities of the large and complex resulting datasets, and be able to process such 'big data', initiative must be supported e.g. in the health sector (personalized medicine). Health-care of the future will be based on community, collaboration, self-caring, co-creation and co-production using technologies delivered via the Web (Cambria et al 2012)."

Online medical forums are platforms on which interested parties (e.g., patients, family members) collaborate for better health. The best forums promote empowerment of patients and improve quality of life for individuals facing health-related problems. An online survey of 340 participants of HIV/AIDS-related Online Support Groups revealed four most important factors that contribute to the patient empowerment: receiving social support, receiving useful information, finding positive meaning and helping others (Mo and Coulson, 2012). On surveyed medical forums, personal testimonials attract attention of

¹ <http://ec.europa.eu/eurostat/>