

Interactive comment on “Review article: Detection of informative tweets in crisis events” by Anna Kruspe et al.

Anonymous Referee #2

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General comments: The review paper summarizes research on the automatic processing of social media messages in crisis situations. The paper outlines varying concepts of information, relevance, available datasets, filtering approaches and associated challenges. Overall, and echoing the concern of the previous reviewer, the paper can serve as an introduction to this research but lacks the comprehensive detail or specific focus that would recommend it to experts. The authors might consider approaching the review from the perspective of one of the challenges highlighted in section five with the goal of providing an overview of approaches addressing this challenge and revealing new directions for research.

Specific comments: The different understandings of information relevance between research focusing on technical challenges related to processing social media mes-

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sages and research focusing on the information requirements of end users, i.e., emergency responders, deserves further attention. As the authors point out, the former includes different concepts of information relevance—“related”, “relevant”, and “informative”—that are not often compared or resolved in research addressing technical challenges. Moreover, compared to research on end user requirements, these definitions are considered much too coarse grained. When employed in the design of social media filtering tools, these designs may provide information that is somehow related to a crisis but typically unrelated to responders’ information needs which not only vary by role and crisis, but by dynamic contextual factors such as the availability of information from existing, traditional information sources. Recent research has considered these challenges by turning to the concept of “actionability” to describe information relevance from the end user perspective of emergency responders (Kropczynski et al., 2018; McCreadie et al., 2020; Zade et al., 2018).

As the paper provides a cursory overview of available datasets, filtering approaches and associated challenges, greater detail might be included in each. As described above, selecting a particular research challenge as a way to focus the review and discuss in greater detail the contributions of these studies with respect to this challenge would offer readers more insight into the research space.

There are additional datasets that might be included, such as listed in Palen et al. (2020) and Grace (2020).

McCreadie, R., Buntain, C, Soboro, I. (2020). Incident Streams 2019: Actionable Insights and How to Find Them. In Proceedings of the 17th ISCRAM Conference (pp. 77-760).

Kropczynski, J., Grace, R., Coche, J., Jalse, S., Obeysekare, E., Montarnal, A., ... & Tapia, A. (2018). Identifying actionable information on social media for emergency dispatch. In Proceedings of the ISCRAM Asia Pacific (pp. 1-11).

Zade, H., Shah, K., Rangarajan, V., Kshirsagar, P., Imran, M., & Starbird, K. (2018).

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From situational awareness to actionability: Towards improving the utility of social media data for crisis response. Proceedings of the ACM on human-computer interaction, 2(CSCW), 1-18.

Palen, L., Anderson, J., Bica, M., Castillos, C., Crowley, J., Díaz, P., ... & Kogan, M. (2020). Crisis Informatics: Human-Centered Research on Tech & Crises. Retrieved from <https://hal.archives-ouvertes.fr/hal-02781763/document>

Grace, R. (2020). Crisis social media data labeled for storm-related information and toponym usage. Data in brief, 105595. doi:10.1016/j.dib.2020.105595

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-214>, 2020.

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