

## **Data Science for Civil Security and Perspectives for Public Mental Health Monitoring**

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The digital space offers continuously growing amounts of data and information leading to almost infinite possibilities for acquisition and use. However, a large percentage of this data is not ready to be used for value creation. Challenges in this regard are known as the five V's of the big data era: We have to handle huge amounts (volume) of data streams (velocity) from heterogeneous sources (variety) and especially have to take care that we use correct information (validity) for decision making and applications (value).

DLR-DW's group Multimodal and Geospatial Information Retrieval (MIR) addresses these challenges in order to enable researchers and practitioners to make use of unstructured and heterogeneous data as reliable source of information.

For applications in the civil security domain, aspects like the validity, topicality and correct geo-location of information are of crucial importance. Our vision is to provide methods and tools to transform multimodal unstructured data, like text documents, webpages, images and audio recordings to decision-ready data and information to be used as additional, complementary and reliable source of information, e.g. for the common operational picture or the resilience estimation of critical infrastructures. Besides facility-related knowledge, the data potentially contains emotion information, for instance related to anxiety, anger, or trust, including their change over time and location.

In this talk, first results and planned activities in the fields of civil security as well as emotion recognition are presented. The corresponding applications cover tasks like situational monitoring, resilience assessment for critical infrastructures, and hybrid threads in collaboration with the German Red Cross, further DLR institutes, and the Federal Office of Civil Protection and Disaster Assistance (BBK).