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Adapting C2 to the 21st Century

Risk Assessment and Horizon Scanning – An Approach to Machine-Augmented Sensemaking

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Abstract

Singapore has developed a prototype Risk Assessment and Horizon Scanning (RAHS) system in collaboration with The Arlington Institute and Cognitive Edge, with the aim to provide analysts with an extensible suite of tools for data exploration and data exploitation based on a service-oriented architecture. The RAHS system facilitates the extraction of open source information into repositories, which are then available to analysts for search and retrieval by means of various tools to augment the human users' sensemaking process (e.g. entity analysis, timeline analysis, automated question and answer, visual documents, etc). This paper describes how the RAHS system may be used in the analysis of a massive amount of data, drawing examples from open source material available on the Internet. In addition, this paper also presents a limited experiment in which analysts were presented with the task of exploring a set of documents related to a fictitious terrorist organization in order to identify the roles and responsibilities of the various people linked to the terrorist organization. A simple comparison regarding the workflow, efficiency, and effectiveness of a RAHS analyst is made to that of an analyst equipped with a traditional search engine. Finally, the lessons drawn from this experiment are presented that point to the possible way ahead for future versions of the RAHS system.

Topics: Machine-augmented sensemaking, data exploration, Natural Language Processing, Information Visualization

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