The Year of Algorithmic Media: An Introduction to Collective Intelligence and Crowds Minitrack

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The papers in this year's minitrack span many aspects of digital and social media, including personal conversations, online reviews, news, maps, and videos of political debate. One common theme is interaction: all papers look at how individuals interacting with media – and indirectly with each other through media – gain insight that emerges from collective effort.

These efforts are timely: the past year has been marked by discussion of how social media algorithms can be manipulated to affect decision making. The antidote to this may be tools that allow consumers of media to take back control of algorithms that determine the data – and the commentary on data – they see. The papers in this minitrack offer glimpses of how this might occur.

Deception can be detected through the traces of dyadic conversation [4]. In this work, a game is used to elicit conversations in which one person is deceiving and the other person is asking questions to detect deception. An automated detector then analyzes the transcripts. This can be seen as a hybrid detection system, making use of human's ability to question with the computer's ability to detect subtle patterns.

Crowston, Mitchell and Østerlund present a case study of citizen science. They contrast a continuing highly successful project that classifies galaxies with a highly unsuccessful project that sought to involve citizen scientists in the process of writing an academic paper. The findings highlight how crowds and communities of amateurs may be effective on tasks that exhibit high parallelism and low coordination dependencies, but may struggle with tasks that demand close synchronization, complex integration, and deep process knowledge [2].

Gorko et al. address an interface issue: how to make best use of crowd-gathered spatiotemporal data. Their work allows for such data to be examined on multiple scales. The paper illustrates the importance of considering not only the design of crowd processes, but also the design of tools to make sense of the accumulated data [3].

Boon discusses how some news aggregators use rating surveys to automatically curate news content, and shows through observation and simulation the pitfalls of such automated curation [1]. It is indeed a cautionary tale.

Plüss, and De Liddo show how using analytics on a second screen can deepen our engagement with political debate. The effects are moderated by our interest in politics, and the tool is most useful for those with the most interest. The work is part of a growing body of research about second screens and the practice of viewing information and meta information at the same time [5].

In sum, the papers express the zeitgeist of the past year. Deception can be detected by hybrid systems [4]; tools can help us understand political events [5]; and automated judging of news is problematic [1]. Interactive visualization is an important step for understanding crowd input [3], and organizing volunteers to produce collective intelligence is still an open and important research challenge [2].

[1] Boon, M., "It's All News to Me: The Remix", Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), 2018.

[2] Crowston, K., E. Mitchell, and C. Østerlund, "Coordinating Advanced Crowd Work: Extending Citizen Science", Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), 2018.

[3] Gorko, T., C. Yau, A. Malik, M. Harris, J. X. Tee, R. Maciejewski, C. Qian, S. Afzal, B. Pijanowski, and D. Ebert, "A Multi-Scale Correlative Approach for Crowd-Sourced Multi-Variate Spatiotemporal Data", Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), 2018.

[4] Ho, S. H., and J. Hancock, "Computer-Mediated Deception: Collective Language-action Cues as Stigmergic Signals for Computational Intelligence", Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), 2018.

[5] Plüss, B., and A. De Liddo, "Democratic Replay: Enhancing TV Election Debates with Interactive Visualisations", Proceedings of the 51st Hawaii International Conference on System Sciences (HICSS), 2018.

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