What's Hot in Crowdsourcing and Human Computation

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Abstract

The focus of HCOMP 2014 was the crowd worker. While crowdsourcing is motivated by the promise of leveraging people's intelligence and diverse skillsets in computational processes, the human aspects of this workforce are all too often overlooked. Instead, workers are frequently viewed as interchangeable components that can be statistically managed to eek out reasonable outputs. We are quickly moving past and rejecting these notions, and beginning to understand that it is sometimes the very abstractions that we introduce to make human computation feasible, *e.g.*, abstracting humans behind APIs or isolating workers from others in order to ensure independent input, that can lead to the problems that we then set about trying to solve, *e.g.*, poor or inconsistent quality work. Creating a brighter future for crowd work will require new socio-technical systems that not only decompose tasks, recruit and coordinate workers, and make sense of results, but also find interesting tasks for people to contribute to, structure tasks so that workers learn from them as they go, and eventually automate mundane parts of work. Research in artificial intelligence will be vital for achieving this future.

An Inherently Multidisciplinary Field

"Human computation and crowdsourcing is unique in its direct engagement and reliance on both human-centered studies and traditional computer science. The HCOMP conference is thus aimed at promoting the scientific exchange of advances in human computation and crowdsourcing among researchers, engineers, and practitioners across a spectrum of disciplines who may otherwise not have the opportunity to hear from one another. . . . The meeting seeks and embraces work on human computation and crowdsourcing in multiple fields, including human-centered fields like human-computer interaction, cognitive psychology, economics, management science, and social computing, and technical fields like databases, systems, information retrieval, optimization, vision, speech, robotics, machine learning, and planning." —HCOMP CfP

Three Example Trends

The diversity of crowdsourcing and human computation leads to innovations occurring over a number of different subdisciplines and fields. In this short paper, I highlight three topics that stand out to me as representing areas newly in the forefront of the field:

- **Understanding the Crowd Worker Experience:** crowdsourcing and human computation rely on workers, yet many of us in technical fields focused first on aspects of computational support for eliciting input, rather than on their experience during tasks. New work is shedding light on the worker experience, and is yielding insights to the who, how, where, and why of crowd work, which is likely to make crowd-powered systems more effective going forward (Martin et al. 2014; Gupta et al. 2014; Zyskowski et al. 2015).

- **Broadening Definitions of "The Crowd":** recent work has also started to show how the lessons learned in microtask crowdsourcing can be applied to more broadly defined crowds. For example, social media, citizen science, learning at scale, and ever-expanding sources of paid online workers, can all be leveraged to find crowds with different interests, motivations, backgrounds, and skills (Ross et al. 2010; Christoforaki and Ipeirotis 2014; Kittur et al. 2013).

- **Expert and Creative Work:** crowdsourcing and human computation is increasingly recognized as being able to contribute to creative and expert work, *e.g.*, helping to explain why a joke is funny (Lin et al. 2014), or amplifying one's creative ability by providing skilled assistance (Kulkarni et al. 2014). Integrating computational support and mediation, in the form of AI planners and prompting methods, can even reduce the overhead involved in organizing and coordinating teams of expert workers (Retelny et al. 2014).

Conclusion

The field of crowdsourcing and human computation has grown and matured substantially over its first decade. As a field, we have made great strides across a number of problems in many different discliplines. Yet, in terms of the rich problems that remain unsolved, I am confident that the area will only become more interesting and impactful.

Acknowledgments

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