

COMPUTER SCIENCE
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*Improving Question-Answering Using Human-Machine
Synergies*

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Abstract: Question-and-answer (Q and A) has received significant recent attention with the success of IBM Watson on the quiz show Jeopardy!. Machine-based Q and A is promising, but the technology is some way from rivaling the abilities of humans, even in seemingly rudimentary tasks such as question comprehension and clarification dialog. In this talk, I will argue that by leveraging human-machine synergies, we can create powerful mediated Q and A systems that can overcome the limitations of machine-only solutions, while also meeting basic human desires for interaction with others. Specifically, I will: (1) describe our work on developing IM-an-Expert, a synergistic Q and A system recently shipped by Microsoft Lync; (2) present findings from two studies: one investigating the effect of community size and contact rate on the effectiveness of real-time social Q and A, and another examining the value of predicting outcomes at various points of the question lifecycle, and; (3) provide insights and lessons learned from our deployment of real-time Q and A technology within Microsoft and beyond.

Bio:

Ryen W. White is a researcher in the Context, Learning, and User Experience for Search (CLUES) Group at Microsoft Research, Redmond. His research interests lie in understanding search interaction and in developing tools to help people search more effectively. He received his Ph.D. in Interactive Information Retrieval from the Department of Computing Science, University of Glasgow, United Kingdom, in 2004. Ryen has published over 100 conference papers and journal articles in Web search, log analysis, and user studies of search systems. He has received five best-paper awards, including two at the ACM SIGIR conference (2007,2010), one at the ACM SIGCHI conference (2011), and one in JASIST (2010). His doctoral research received the British Computer Societys Distinguished Dissertation Award for the best Computer Science Ph.D. dissertation in the United Kingdom in 2004/2005. Ryen has co-organized numerous workshops on information seeking, in particular exploratory search, including an NSF-sponsored invitational workshop, and has guest co-edited special issues in these areas for a variety of outlets, including Communications of the ACM and IEEE Computer. Since 2008, he has co-organized the annual HCIR workshop. Ryen has served as area chair for many top conferences in information retrieval, and currently serves on the editorial board of ACM TOIS and the Information Retrieval Journal. In addition to academic impact, his research has been shipped in many Microsoft products, including Bing, Xbox, Internet Explorer, and Lync.

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