Large Scale, Open Cognitive Collaboration of Distributed Crowds

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ABASTRACT

Drawing on communication, sociology and social psychology theories, my research focuses on large scale, open cognitive collaboration of distributed crowds. I study how individuals interact and collaborate with each other via mediated communication channels, applying social network analysis, conducting online experiments and utilizing big data dumps of online communities, such as Wikipedia, Stack Overflow, Github and Threadless.com.

Categories and Subject Descriptors

H.1.2 [**Information Systems**]: User/Machine Systems – *human factors, human information processing, software psychology.*

General Terms

Experimentation, Human Factors, Theory

Keywords

Cognitive collaboration, social networks, communication

1. RESEARCH INTEREST

The enhanced connectivity in modern society has provided new ways in which people can share knowledge and collaborate with one another. Individuals from distributed geographical locations can now exchange information and advice, answer each other's' questions, or collaboratively create new knowledge in online communities. My research focuses on this large scale, open cognitive collaboration of distributed crowds. Drawing on communication, sociology and social psychology theories, my research investigates how individuals interact and collaborate with each other via mediated communication channels. I'm applying social network analysis, conducting online experiments and

utilizing big data dumps of online communities, such as Wikipedia, Stack Overflow, Github and Yelp.

I'm currently working on several research projects that investigate the dynamics of online cognitive collaboration. In one paper I'm working on, I theorize collaborative knowledge production online (i.e. collaborative editing of Wikipedia articles) as a collective action that produces public goods. I then discuss the new characteristics of online knowledge collaboration that can't be fully explained by extant collective action theory, and advocate a social network perspective that emphasizes social relations and interactions among potential contributors to explain this new form of knowledge collaboration. I'm also working with Professor Lian Jian from Annenberg School of Communication, investigating how initial interaction experience in online knowledge communities influence continued participation of newcomers. We utilize public datasets released by online question and answer site Stack Overflow in this study. As a member of Annenberg Networks Network, I'm also working as part of a research group studying the relationship among community interaction, participant diversity and collective performance using the dataset of a crowdsourcing T-Shirt company Threadless.com. Working with my advisor Professor Andrea Hollingshead, I'm conducting online experiments investigating how variance in online reviews influence perceptions of information seekers.

I'm a PhD candidate who's working on developing my dissertation prospectus. My dissertation will apply social psychology theories of groups to investigate how social interaction processes influence the cognitive collaboration performance of crowds. It will consist of an online experiments of crowd collaboration and a quantitative data analysis of an online community. I'm hoping my dissertation will contribute to our understanding of the social and cognitive process involved in open collaboration.

I'm hoping to attend the doctoral symposium at OpenSym 2015 to have a conversation with doctoral students and researchers from multiple academic disciplines, in order to gain interdisciplinary perspectives of open collaboration, develop my own research ideas and look for possible research collaborations. And hopefully, I can also contribute my knowledge and expertise as a student of communication.