Algorithmic Crowdsourcing: Current Status and Future Perspective

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Abstract

This talk gives a survey of crowdsourcing applications, with a focus on algorithmic solutions. The recent search for Malaysia flight 370 and the history of human-computer chess matches are used as motivational examples.  Several applications of crowdsourcing are discussed in different areas.   Fundamental issues in crowdsourcing, in particular, incentive mechanisms for paid crowdsourcing, and algorithms and theory for crowdsourced problem-solving, are then reviewed. A set of paradigms for algorithmic crowdsourcing are given, with a focus on the cost-effective processing of a large set of data. The talk also discusses several on-going projects on crowdsourcing.

Bio

Jie Wu is the chair and a Laura H. Carnell Professor in the Department of Computer and Information Sciences at Temple University. Prior to joining Temple University, he was a program director at the National Science Foundation and Distinguished Professor at Florida Atlantic University. His current research interests include mobile computing and wireless networks, routing protocols, cloud and green computing, network trust and security, and social network applications. Dr. Wu serves on several editorial boards, including IEEE Transactions on Service Computing and Journal of Parallel and Distributed Computing. Dr. Wu was general co-chair/chair for IEEE MASS 2006, IEEE IPDPS 2008, IEEE ICDCS 2013, and ACM MobiHoc 2014, as well as program co-chair for IEEE INFOCOM 2011 and CCF CNCC 2013. He was an IEEE Computer Society Distinguished Visitor, ACM Distinguished Speaker, and chair for the IEEE Technical Committee on Distributed Processing (TCDP). Dr. Wu is a CCF Distinguished Speaker and a Fellow of the IEEE. He is the recipient of the 2011 China Computer Federation (CCF) Overseas Outstanding Achievement Award.