

**Title:** Discovering Best Teams for Data Leak Aware Crowdsourcing in Social Networks  
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**Abstract:**

Crowdsourcing is emerging as a powerful paradigm to help perform a wide range of tedious tasks in various enterprise applications (e.g., finding the best flight and hotel deals in a travel application). As such applications become more and more complex, crowdsourcing systems often require the collaboration of several experts connected through professional/social networks and organized in various teams. For instance, a well-know car manufacturer asked fans to contribute ideas for the kinds of technologies that should be incorporated into one of its cars. For that purpose, fans needed to collaborate and form teams competing with each others to come up with the best ideas. However, once teams are formed, each one would like to provide the best solution and treat that solution as a trade secret, hence preventing any data leak to its competitors (i.e., the other teams). In this paper, we propose a data leak aware crowdsourcing system called SocialCrowd. We introduce a clustering algorithm that uses social relationships between crowd workers to discover all possible teams while avoiding inter-team data leakage. We also define a ranking mechanism to select the best team configurations. Our mechanism is based on the semiring approach defined in the area of soft constraints programming. Finally, we present experiments to assess the efficiency of the proposed approach.

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