Combinatorial auctions involve the sale of multiple distinguishable items where bidders can bid on combinations of desired items. This allows bidders to express perceived complementarities and substitutabilities between items, thus increasing revenue for the bid-taker and improving efficiency. Revenue-maximizing winner determination is algorithmically challenging. Solution uncertainty, e.g. bid-withdrawal or an incapacitated bidder, can leave the bid-taker exposed to significant revenue losses or supply failures. We have developed a unique algorithmic approach for finding robust solutions of near-optimal revenue that can withstand bid withdrawal to form repair solution easily. We aim to develop a prototype application of this technology for the sourcing/procurement sector.

**Project Coordinator**

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