

Smart CROwdsourced Urban Delivery (CROUD) System

NSF PFI:BIC - Smart CROwdsourced Urban Delivery (CROUD) System

Duration: 9/1/2015-8/31/2018

Amount: \$1,000,000 (UIC subaward: \$320,000)

PI: Yu (Marco) Nie, Northwestern University

co-PIs: Jane Lin (UIC), Jim Schummer (NU), Ouri Wolfson (UIC), Amanda Stathopoulos (NU)

Industrial partner: Zipments

Abstract: The thesis of the CROUD is the ability, enabled by recent advances in communication and ubiquitous mobile computing, to match highly fragmented transport capacities with vastly diverse demand for urban deliveries, temporally, spatially and in real-time. The project will build on collaboration between a CROUD-based technology firm, Zipments, and two research universities, Northwestern University (NU) and University of Illinois at Chicago (UIC), to develop intelligence necessary to integrate the CROUD technology into a human-centered smart urban delivery service system. The proposed partnership will assemble a team that consists of Zipments' technical group (including its CEO and co-founders) and five researchers of diverse expertise. The envisioned smart CROUD system will integrate four subsystems that encapsulate, respectively, pricing/matching mechanisms, consumer/courier management strategies, collaborative delivery/routing algorithms and real-time data collection and analysis tools. Prototypes of the new system will be implemented and evaluated based on the CROUD platform currently operated by Zipments.