

Sonny Astani Department Seminar
Friday, February 17th
SLH 102 3pm to 4pm

Demand and Supply Distribution of Street Hailing Taxi Service

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February 17, 3:00pm, SLH 102*

Abstract:



Before the rise of taxi hailing via mobile devices, passengers and taxi drivers have no information about each others' locations. For traditional street hailing taxi services, where are the potential passengers? Where are the free taxis? Does free taxi supply match passenger demand? Using New York City taxi trip records during 2009-2013, we built and tested models to answer these questions.

In-situ Quality Control of Scan Data for As-built Models

Pedram Oskouie

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February 17, 3:30pm, SLH 102*

Abstract:



Laser scanners capture geometric information of a building in the order of minutes and with millimeters accuracy, which makes them a valuable asset, especially when capturing the details of the geometry is required. However, to date, challenges remain with accurate detection and extraction of building primitives from the scan data. These challenges often stem from the early data acquisition stage. Existence of data quality issues such as missing data or low point cloud resolution (point density) result in inaccurate 3D BIM models and often raises the need for redoing the scan process.

This research focuses on analyzing the scan data of buildings, and specifically investigates the data quality requirements for modeling the architectural elements on building exteriors within the Scan-to-BIM context. The knowledge about scan data acquisition means and methods (e.g., scan planning, adjusting resolution settings) is integrated with the as-built modeling techniques to realize their synergy in the context of the Scan-to-BIM process. The integration bridges the existing gap in accurate as-built modeling by taking into consideration the requirements for generating a high quality 3D model in the very first steps of data collection. The research objectives are: (1) Identification of the scan data quality requirements for the Scan-to-BIM process; (2) In-situ identification and classification of scan data quality issues for modeling buildings' exterior; and (3) Recognition of causes for different data quality issues.