

Applications of Game Theory to Transportation

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Abstract:

Safe, efficient, and reliable transportation (both freight and passenger) are essential components of every day life connecting people to work, business, and family to name a few. As population grows and technology advances expectations of the people and businesses from the transportation system change with ever increasing demands for an efficient and just-in-time capable infrastructure. At the core of every transportation (planning, tactical, operations, and real-time) problem lie elements of operations research, mathematics, and statistics. To that end game theory provides promising avenues to advance our understanding and modeling of freight and passenger transportation as it allows us to develop mathematical-empirical relations and models that describe and emulate the behavior and interactions of the various stakeholders. In this presentation we provide a brief overview of applications of game theory in transportation and example case studies from real world applications.

About the Speakers:

Mihalis (Mike) Golias, Ph.D., is an Associate Professor with the Department of Civil Engineering, at the University of Memphis. His research covers the areas of maritime and freight transportation, physical network vulnerability, capital/operational resource allocation for network improvements, and multilevel multi-criteria decision-making optimization.

Sabya Mishra, Ph.D., is an Assistant Professor with the Department of Civil Engineering, at the University of Memphis. His research expertise include transportation planning, travel demand modeling, impact of technological innovations on transportation networks, travel behavior, public transportation, transportation economics, and finance.

Reception in Dunn Hall 336 - 1:30pm