



جلسه ارائه علمی دانشکده مهندسی صنایع

Data Driven Decision Making and The Role of Industrial Engineering in Business Analytics

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Abstract

Since the rise of Business Analytics as an academic field, we have observed an increasing amount of discussion to define the role of Industrial Engineering (IE) and Operations Research (OR) in this area. Classical IE & OR techniques such as optimization, simulation and stochastic modeling provide natural tools for data driven decision making. In this seminar, I focus on how the IE & OR community has come together to take the lead in Business Analytics, and share three research projects as examples of data driven decision support tools. First we look at a revenue management model for off-street parking lots, which uses discrete-event simulation and integer programming to determine the optimal number of subscriptions to sell. Then I describe the construction of a predictive model for railroad track defects using stochastic processes and statistical classifiers. Finally, we discuss a descriptive model for air quality in the city of Bogota (the Colombian capital), using over 15 years of historical data collected on an hourly basis.

Biography

Raha Akhavan-Tabatabaei is associate professor of Operations Management and the co-director of Masters in Business Analytics at Sabanci School of Management. Prior to this role, she has held the positions of associate professor of Operations Research and founding director of Masters in Analytics at Universidad de los Andes in Bogota, Colombia, and senior industrial engineer at Intel Corporation in Arizona, USA. She has received her PhD in Industrial Engineering and Operations Research from North Carolina State University. Her research is focused on stochastic modeling and data-driven decision making with applications in healthcare, logistics, revenue management and reliability.