Soheil Hemmati

About

The focus of Soheil's research program is on mathematical optimization models and their applications in decision-making for healthcare applications. Mathematical programs are the primary analytical tools utilized in his research projects with particular interest devoted to novel solution techniques for stochastic optimization, integer programs, and bilevel optimization. Soheil's primary application area is in healthcare, where he aims to introduce novel techniques to solve clinical decision-making problems in cancer care, notably personalized screening programs and personalized emerging treatments. In addition, Soheil has experience in formulating and solving interdiction problems using discrete bilevel programs, with direct application in protection and fortification of cyber-physical systems.

Research Focus

- Decision-making in cancer screening
- Optimization models for novel cancer treatments
- Health policy making
- Optimization theory: stochastic integer programs, Markov decision processes, bilevel optimization
- Interdiction problems

ISE Impact Domains

- Health and Medical Systems
- Cyber-Physical-Social Systems

Experience and Distinctions

- Former postdoctoral research fellow at Rice University and the University of Texas MD Anderson Cancer Center under the supervisions of Andrew J. Schaefer, Clifton D. Fuller, and Iakovos Toumazis.
- Former Ph.D. student at the University of Florida under the supervision of J. Cole Smith.