



جلسه ارائه علمی دانشکده مهندسی صنایع

A Queueing Loss Model with Heterogeneous Skill Based Servers under Idle Time Ordering Policies

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Abstract

We consider a queueing loss system with heterogeneous skill based servers with arbitrary service distributions. We assume Poisson arrivals, with each arrival having a vector indicating which of the servers are eligible to serve it. An arrival can only be assigned to a server that is both idle and eligible. Assuming exchangeable eligibility vectors and an idle time ordering assignment policy, the limiting distribution of the system is derived. It is shown that the limiting probabilities of the set of idle servers depend on the service time distributions only through their means. Moreover, conditional on the set of idle servers, the remaining service times of the busy servers are independent and have their respective equilibrium service distributions.

Biography

Babak Haji earned his Ph.D. in Industrial and Systems Engineering at the University of Southern California in May 2015. Shortly after his graduation, he worked as an adjunct faculty lecturer at Pepperdine University where he taught a graduate course in advanced statistical tools. During fall 2015, he was a Visiting Assistant Professor at University of Arizona where he taught queueing theory and engineering statistics. Currently, he works as a postdoctoral fellow at Columbia University on modeling, analysis, and control of patient flow in the emergency department of Columbia Medical School. His research interests are in the area of stochastic process and queueing theory, as applied to service, manufacturing, communication networks, and data centers. Haji is the recipient of Viterbi School of Engineering Best Doctoral Dissertation award and Viterbi School of Engineering Doctoral Fellowship award.