

Scheduling in Queueing Network Environments with Flexible Servers and Setup Times

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In this project, we will create hybrid queueing theory and scheduling models to solve combinatorically complex problems in dynamic environments. This project is part of our research in combining the two research areas which have mostly been developed independently. By using tools provided by both research areas, we attempt to more accurately represent a queueing network with flexible servers. The goal will be to develop scheduling models which make use of queueing models which gather information from online realizations to guide future scheduling decisions.

Recommended pre-requisites: (a) Previous courses and/or experiences in discrete event simulation, linear programming, stochastic modelling, and queueing theory. (b) Proficiency in C/C++ and IBM ILOG CPLEX Optimizer.