

Building Game Theoretical Software in a Research Environment

More info here

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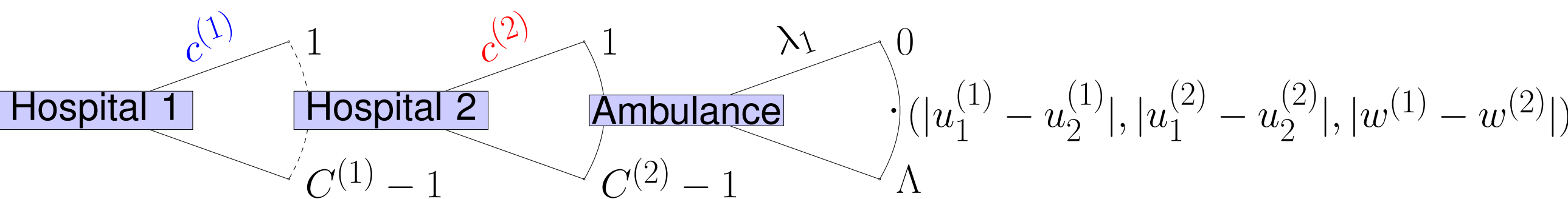


Figure 1: Underlying Stackelberg Game

Stackelberg game, MC, NFG

The issue of waiting times for ambulances at two hospitals can be modelled as a simple Stackelberg game where each hospital has its own AE and Ward. Patients arrive at the AE at rate λ and if there is space in the queue they join it. If there is no space in the queue that patient is lost. Each patient has an AE service time, μ , which represents how long their treatment in AE will last. A proportion, p , of patients are then dismissed immediately. Those who are not dismissed are admitted to the ward if there is space, otherwise they will wait in AE, continuing to occupy a bed. Once admitted, they are treated in the ward with a service time $\hat{\mu}$ and then dismissed without delay.

Sage OSS, Matching/Co-operative games

Sage: "Creating a viable free open source alternative to Magma, Maple, Mathematica and Matlab". Ref? The areas of Game Theory that we decided to implement in Sage were Matching Games, Co-operative

Games and Normal Form Games.

Limitations of MC

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Q-Learning

Q-learning is the process of assigning a state-action value or Q-value to the combination of being in a state, taking an action and observing a reward. The Q-value is then updated by assessing the maximum value of being in the new state. The higher the Q-value the more likely a player is to choose action a when in state s .