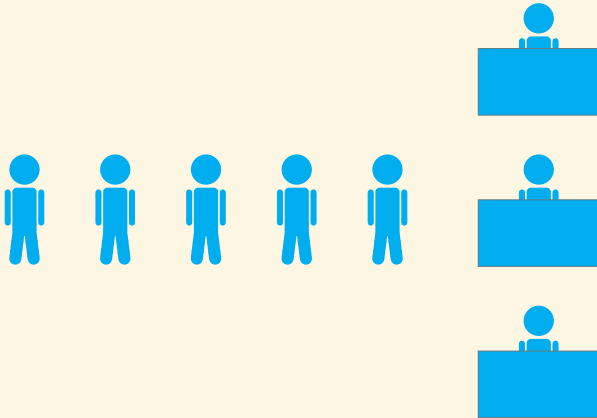


A 3-player game theoretic model of a choice
between two queueing systems with strategic
managerial decision making

Queues - Examples



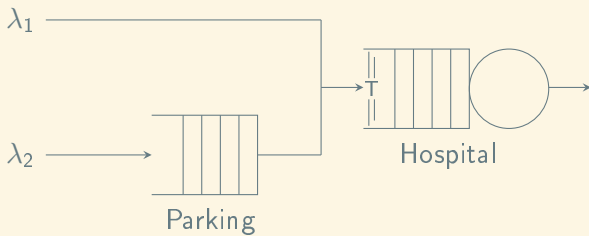
Queues - Examples



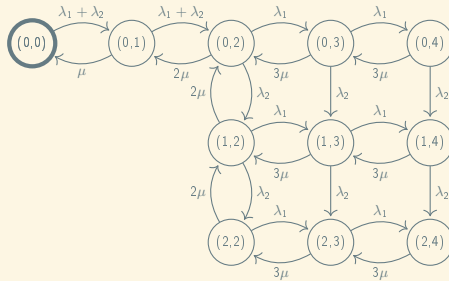
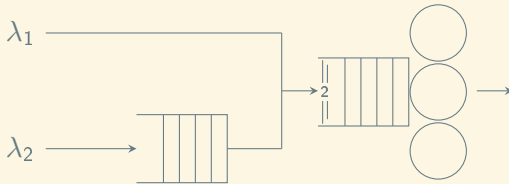
Queues - Examples



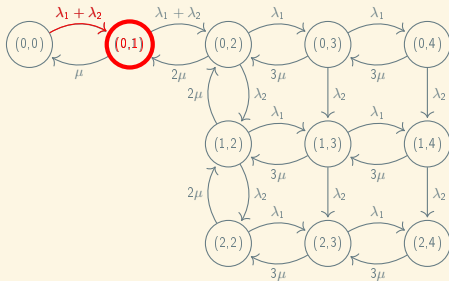
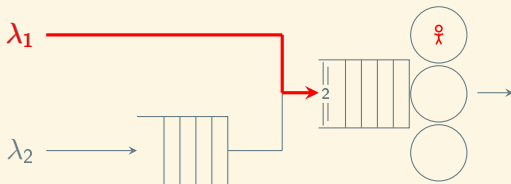
Queueing network structure



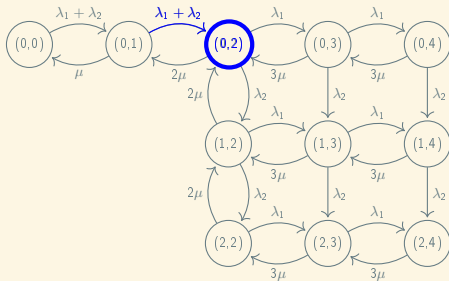
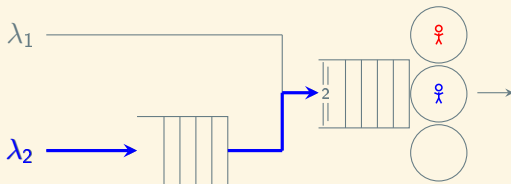
Markov Chain - Custom network



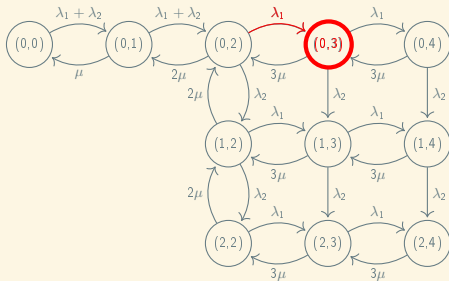
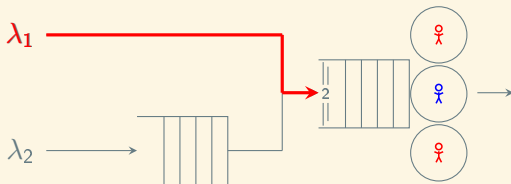
Markov Chain - Custom network



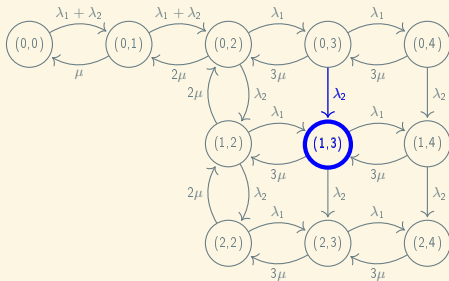
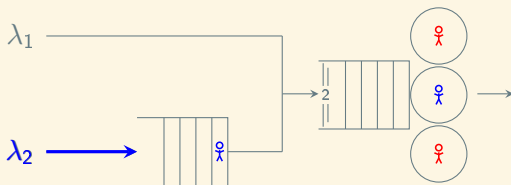
Markov Chain - Custom network



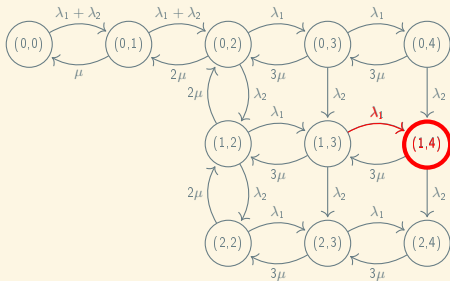
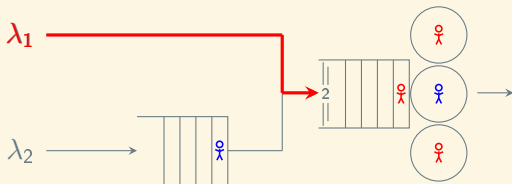
Markov Chain - Custom network



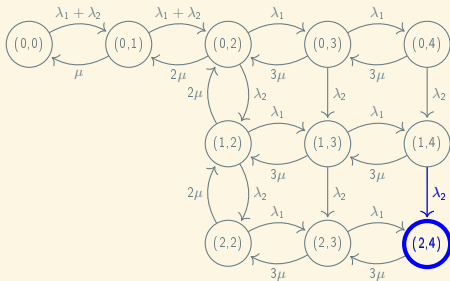
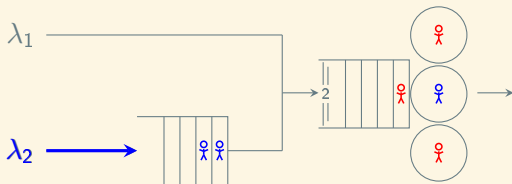
Markov Chain - Custom network



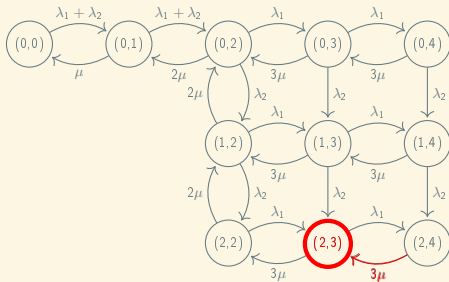
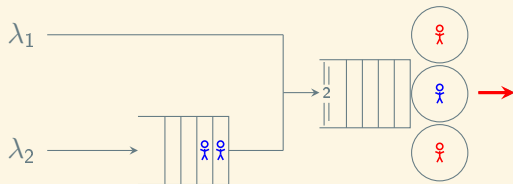
Markov Chain - Custom network



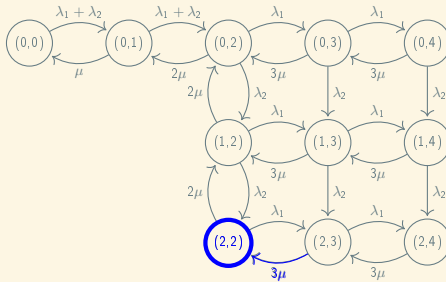
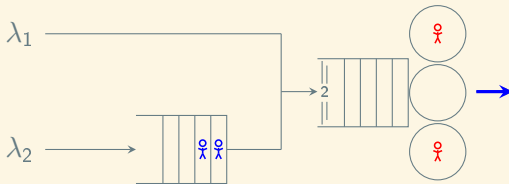
Markov Chain - Custom network



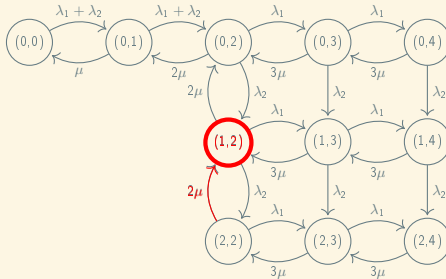
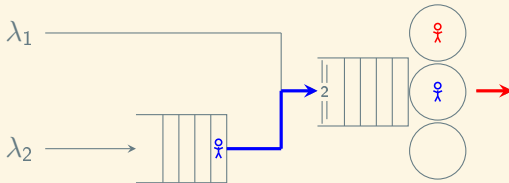
Markov Chain - Custom network



Markov Chain - Custom network



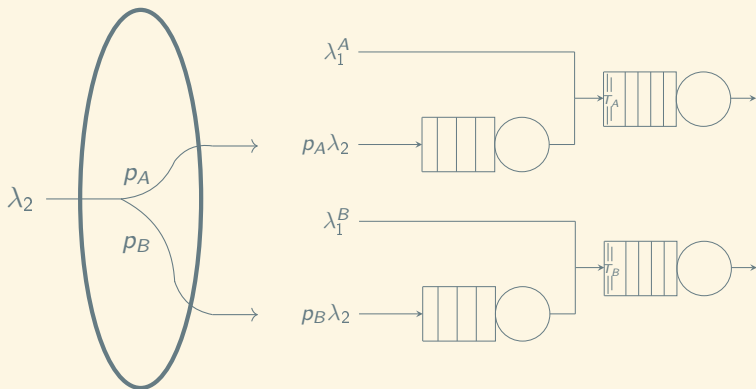
Markov Chain - Custom network



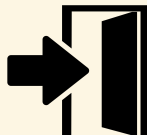
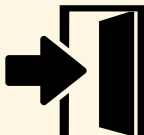
Game - Definition



Game - Players



Game - Strategies



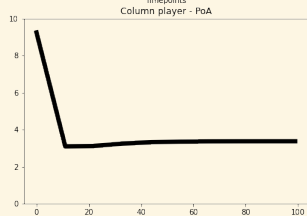
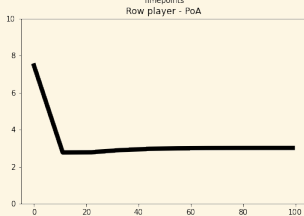
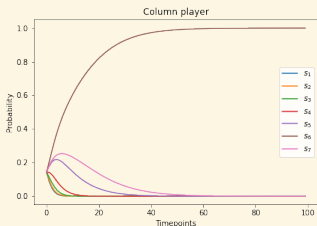
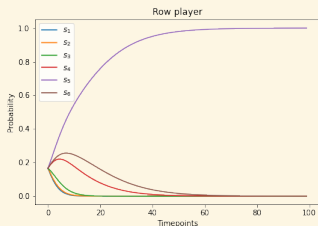
$$p_A, p_B \in [0, 1]$$

$$T_A \in [1, N_A]$$

$$T_B \in [1, N_B]$$

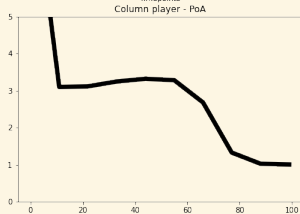
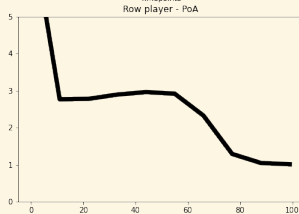
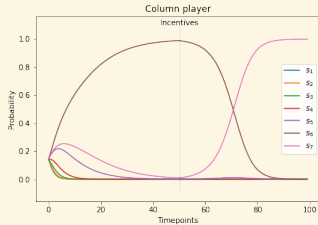
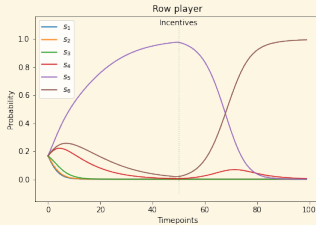
$$p_A + p_B = 1$$

Learning algorithms - Asymmetric replicator dynamics



“Inefficiencies can be learned
and emerged naturally in an
interactive system”

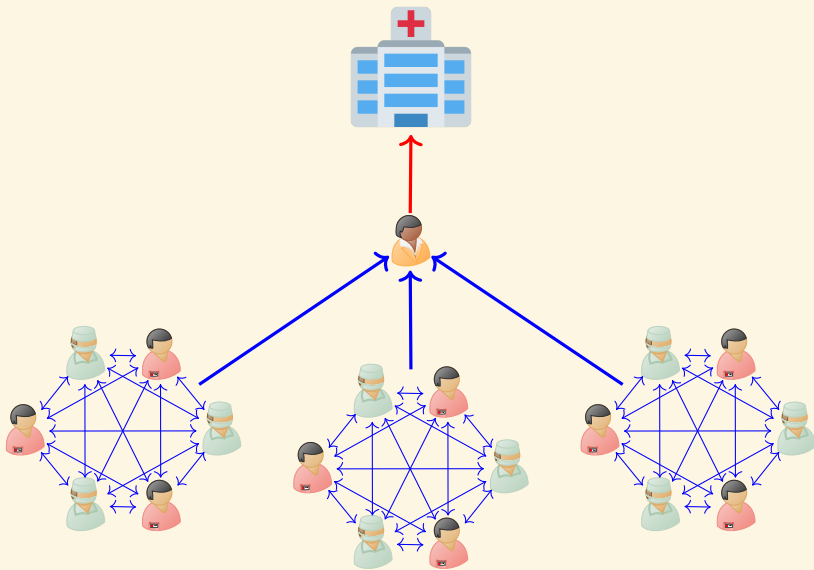
Learning algorithms - Asymmetric replicator dynamics



“Targeted incentivisation of behaviours can help escape learned inefficiencies”

Ethnography?

Potential future model



Interfaces and transfers study

1. Ambulance Control Centre
 - ▶ Patients are translated into objects of practise for EMS workers
2. Emergency Medical Services
 - ▶ Organising logic (clinical, patient, collaborative)
 - ▶ Patients are translated into an object of practise for ED workers
3. Emergency Department
 - ▶ Sense making process to determine care trajectory
 - ▶ Clinical logics (treatment, care)
 - ▶ Management logics (resource utilisation, targets)