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*Behavioural Distances and Simple Stochastic Games*

Behavioural pseudometrics map each pair of states of a model to a number in the unit interval. The smaller that number, the more alike the states behave. By identifying states that are close to each other, we obtain a smaller model that is easier to analyze.

Several algorithms to compute behavioural pseudometrics have been developed. In this talk, we focus on the algorithm proposed by Bacci, Bacci, Larsen and Mardare in 2013. We show that the algorithm can be viewed as a strategy improvement algorithm of a simple stochastic game. As a consequence, the correctness of the algorithm follows from the fact that strategy improvement leads to an optimal strategy for simple stochastic games.

This is joint work with Norm Ferns and Qiyi Tang.