Probabilistic bisimilarity as testing equivalence.

Summary: Larsen and Skou initiated the study of probabilistic bisimilarity and its characterisation in terms of tests. Later on, van Breugel et al. showed that, for labelled Markov processes with continuous state spaces, probabilistic bisimilarity nicely coincides with a simple notion of testing equivalence. Their proof employs advanced machinery from topology. In the discrete case of finite-state reactive probabilistic processes, we prove that coincidence result with an elementary and more accessible proof.

MSC:

68Q85 Models and methods for concurrent and distributed computing (process algebras, bisimulation, transition nets, etc.)

68Q87 Probability in computer science (algorithm analysis, random structures, phase transitions, etc.)

Keywords:

probabilistic processes; bisimilarity; testing equivalence; modal logic

Full Text: DOI

References:


This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.