



Trace semantics for nondeterministic probabilistic automata via determinization

Der Fachbereich Computerwissenschaften der Paris-Lodron-Universität Salzburg

lädt am

Dienstag, 6. November 2018 um 16:00 Uhr

im Seminarraum T04 des Fachbereichs Computerwissenschaften,
Jakob-Haringer-Straße 2,

zum

Gastvortrag

von

Valeria Vignudelli

ENS Lyon

ein.

Assoz. Prof. Dr. Ana Sokolova

Host

Trace equivalences equate two automata by comparing the sequences of actions they perform. In this talk, we focus on trace equivalences for automata combining nondeterministic and probabilistic choices. We show how a trace semantics for such processes, derived from testing equivalences, can be recovered by instantiating a coalgebraic construction known as the generalized powerset construction. This construction defines trace semantics on a system in terms of bisimilarity on the determinized system. The definition of trace semantics recovered via this construction is characterized and compared to known definitions of trace equivalences appearing in the literature.

This is joint work with Filippo Bonchi and Ana Sokolova.

Valeria Vignudelli is a postdoctoral researcher at ENS Lyon working on concurrency theory, semantics of programming languages, probabilistic processes, and mathematical logic. She currently works within the ERC Covece project lead by Damien Pous. She has obtained her PhD from the University of Bologna in 2017 under supervision of Davide Sangiorgi. Valeria has received “Outstanding Master Thesis Award”, for best master thesis in logic in computer science, awarded by the Vienna Center for Logic and Algorithms (VCLA), and “Premio AILA 3+2 2014 - tesi di laurea magistrale”, for best master thesis in logic, awarded by the Italian Association for Logic and Applications (AILA).