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Modeling Fuzzy Tree Properties by Fuzzy Tree Automata

Somaye Moghari

Department of Mathematical Sciences, Shahrood University of Technology, Shahrood, Iran

Abstract

Fuzzy tree automata provide tools for dealing with vaguely defined trees. The behavior of a fuzzy tree automaton is called fuzzy tree language which is a mapping from a set of regular trees on ranked alphabets to fuzzy membership values. This paper provides some heuristic tricks and techniques that can be applied when a set of fuzzy properties are modeling by a fuzzy tree automaton. In this regard, we introduce a set of modelings that encodes some fuzzy / non-fuzzy atomic propositions to fuzzy tree automata. Then, we define some fuzzy properties that are combination of atomic propositions by logical connectives and construct a fuzzy tree automata satisfying them.

Keywords: Fuzzy Tree Automata, Fuzzy Tree Language, Fuzzy Tree Properties.