

# Tree Automata and Separable Sets of Input Variables

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## **Abstract**

We introduce the separable sets of variables for trees and tree automata. If a set  $Y$  of input variables is inseparable for a tree and an automaton then there a non empty family of distributive sets of  $Y$ . It is shown that if a tree  $t$  has "many" inseparable sets with respect to a tree automaton  $\mathcal{A}$  then there is an effective way to reduce the complexity of  $\mathcal{A}$  when running on  $t$ .