
BERNHARD GITTENBERGER, TU Wien

Associative and commutative tree representations for Boolean functions

Since twenty years several authors have studied probability distributions on the set of Boolean functions in n variables induced by distributions on the set of formulas built upon the connectors *And* and *Or* and the literals $\{x_1, \bar{x}_1, \dots, x_n, \bar{x}_n\}$. These formulas rely on plane binary labelled trees. We extend these results, in particular the relation between probability and complexity of Boolean functions, to other models: non-binary or non-plane labelled trees. This includes the natural tree class where associativity and commutativity of *And*, and *Or* are realised.

This is joint work with Antoine Genitrini, Veronika Kraus and Cécile Mailler.