Improving Reasoning on DQBF

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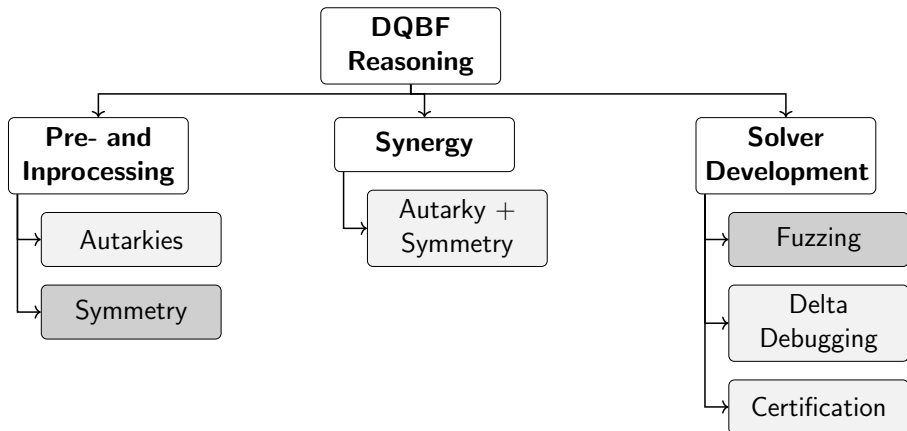
FWF

Der Wissenschaftsfonds.

logics

LOGICAL METHODS IN
COMPUTER SCIENCE

DQBF Reasoning

DQBF Formula
$\forall x, y \exists a(x) b(x, y) : (x \vee \neg y \vee \neg a) \wedge (\neg x \vee a \vee b) \wedge (y \vee b)$

Preprocessing

1. **Autarkies**: assign existential variables such that corresponding clauses becomes true. $\mathbf{F}' = \mathbf{F} \setminus \{\mathbf{C_i}\}$.

2. **Symmetry**: prevent a solver from needlessly exploring equivalent parts of a search space. $\mathbf{F}' = \mathbf{F} \wedge \mathbf{\Phi}$.

DQBF Formula F