

Automata-Theoretic Model Checking Revisited

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Abstract. In automata-theoretic model checking we compose the design under verification with a Büchi automaton that accepts traces violating the specification. We then use graph algorithms to search for a counterexample trace. The theory of this approach originated in the 1980s, and the basic algorithms were developed during the 1990s. Both explicit and symbolic implementations, such as SPIN and SMV, are widely used.