

Determinization

Max Randall
Chapman University

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1 Introduction

In this report, we explore fundamental aspects of both deterministic and nondeterministic finite automata (DFAs and NFAs), including extended transition functions, product automaton construction for intersection, and state modifications for union. We further demonstrate the subset construction to establish the equivalence of NFAs and DFAs, showcasing the broad utility of these automata concepts in both theoretical and practical contexts.