

# Jumping Finite Automata

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We propose a new investigation area in automata theory: *jumping finite automata*. These automata work like classical finite automata except that they read input words discontinuously; that is, after reading a symbol, they can jump over some symbols within the words and continue their computation from there. We establish several results concerning jumping finite automata in terms of commonly investigated areas of automata theory, such as decidability and closure properties. Most importantly, we give several results that demonstrate differences between jumping finite automata and classical finite automata. In the conclusion, we formulate several open problems and suggest future investigation areas.