

Restarting automata were introduced as a model for analysis by reduction which is a linguistically motivated method for checking correctness of a sentence. The goal of the thesis is to study more restricted models of restarting automata which based on a limited context can either delete a substring of the current content of its tape or replace a substring by a special symbol, which cannot be overwritten anymore, but it can be deleted later. Such restarting automata are called clearing restarting automata. The thesis investigates the properties of clearing restarting automata, their relation to Chomsky hierarchy and possibilities for machine learning of such automata from positive and negative samples.