

There are many existing models of automata working on two-dimensional inputs (pictures), though very little work has been done on the subject of learning of these automata.

In this thesis, we introduce a new model called two-dimensional limited context restarting automaton.

Our model works similarly as the two-dimensional restarting tiling automaton, yet we show that it is equally powerful as the two-dimensional sgraffito automaton.

We propose an algorithm for learning of such automata from positive and negative samples of pictures. The algorithm is implemented and subsequently tested with several basic picture languages.