

# Cellular Automata Tiling Weaver

## ***DESCRIPTION:***

The CATWeaver allows the user to construct bitmap images of tile-like patterns based on cellular automaton generation algorithms. Output file types for images include PNG and BMP. Chief among these are Rule 30, the Toothpick sequence, and Langton's Ant. The first is a one dimensional automaton, and the latter two are two dimensional automata. In addition to generation, the user can set up their own automaton rules, and save/load these rules via JSON files.

## ***DEVELOPERS:***

Charles Cook & Sean Curry

USER TYPE	FUNCTIONALITY	DEVELOPED BY
Printer	Selects from preset automata and generates images (outputs .bmp or .png files)	Sean
Instructor	Assembles custom instructions for automata with selection dialog windows and loads them in by using a GUI menu (inputs and outputs .json files)	Charles

## ***Platform:***

Standalone desktop application, cross platform (Windows, MacOS, Linux)  
via the Python ver. 3 Interpreter

## ***Language:***

Python (with the *tkinter* module for GUI design)

## ***Database:***

JSON (for holding preset automata instructions and importing/exporting custom automata rules)