Review of: "Self-Replication, Spontaneous Mutations, and Exponential Genetic Drift in Neural Cellular Automata"

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Potential competing interests: No potential competing interests to declare.

I found the manuscript "Self-Replication, Spontaneous Mutations, and Exponential Genetic Drift in Neural Cellular Automata" confusing due to the lack of definitions and algorithm diagrams.

The authors should add more mathematical statements to define the problem and definitions. For example, the cellular automata are defined as a tuple, where there we have, e.g., the finite alphabet and the neighbor structure. Furthermore, it must be clarified if the update rule is the same for each cell.

Moreover, the authors should write the proposed algorithm as a sequence of steps, including a flux diagram. I had to understand most of the concepts and definitions from the figures, which is not ideal.

In addition, it needs to be clarified how this work can be connected with the laws of physics and biology. If the model is trained to make lizards and fish, how would you expect that would give flowers in the end?

The paper is not ready to be published.