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Using a mix of cellular automata in tumor margin analysis

Cellular automata are classical examples of models for many complex systems related to biology, being suitable tools for modeling growth and diffusion phenomena, especially tumor growth, considering that they have in common with tumors the concept of cell and local interaction. The goal in obtaining a good tumor model with cellular automata, as in any other model, is a better understanding of tumor dynamics and the developing of better techniques for the prediction of their evolution in real instances. The theoretical ingredients of this experiment are mixed cellular automata, the fractal dimension of the structure generated by an automaton (estimated by the box counting dimension), the frontier fractal dimension between two mixed cellular automata (estimated by the compass dimension) and the Langton's Lambda parameter of a cellular automaton.

REFERENCES

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