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A generalized neighborhood for cellular automata

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## Highlights

- A generalized neighborhood for multi-dimensional cellular automata is introduced.
- It spans the range from von Neumann's to Moore's neighborhood using a parameter.
- The parameter equals the dimension of hypercubes connecting neighboring cells.
- Neighbors are enumerated in infinite and finite hypercubes and hypertoruses.
- A sequence is obtained whose partial sums equal Delannoy numbers.

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