Prisoners and Spatial Structure

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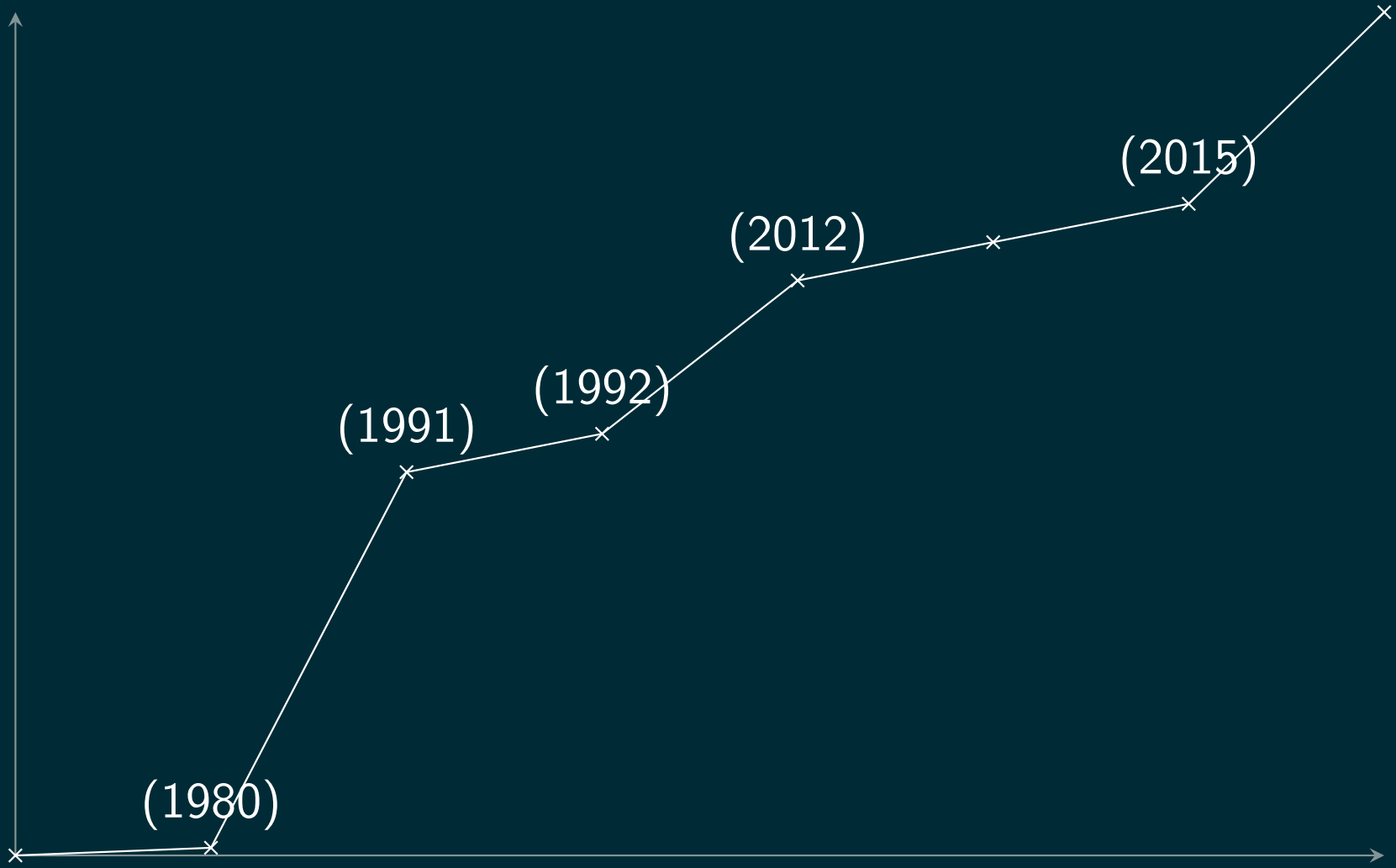
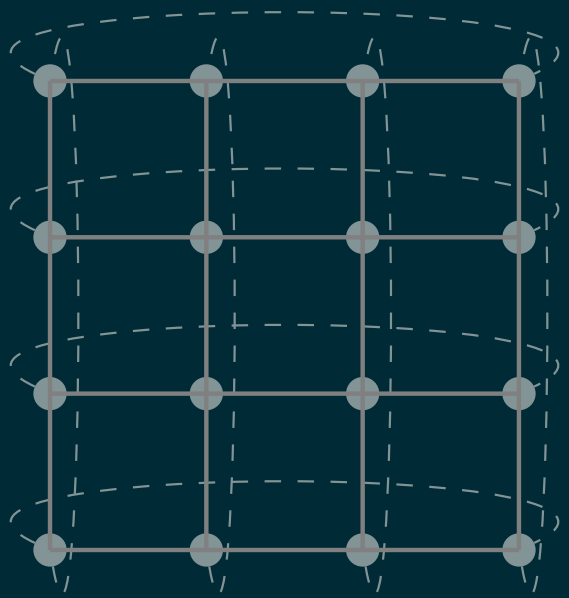
Prisoners and Spatial Structure

$$\begin{bmatrix} 3,3 & 0,5 \\ 5,0 & 1,1 \end{bmatrix}$$

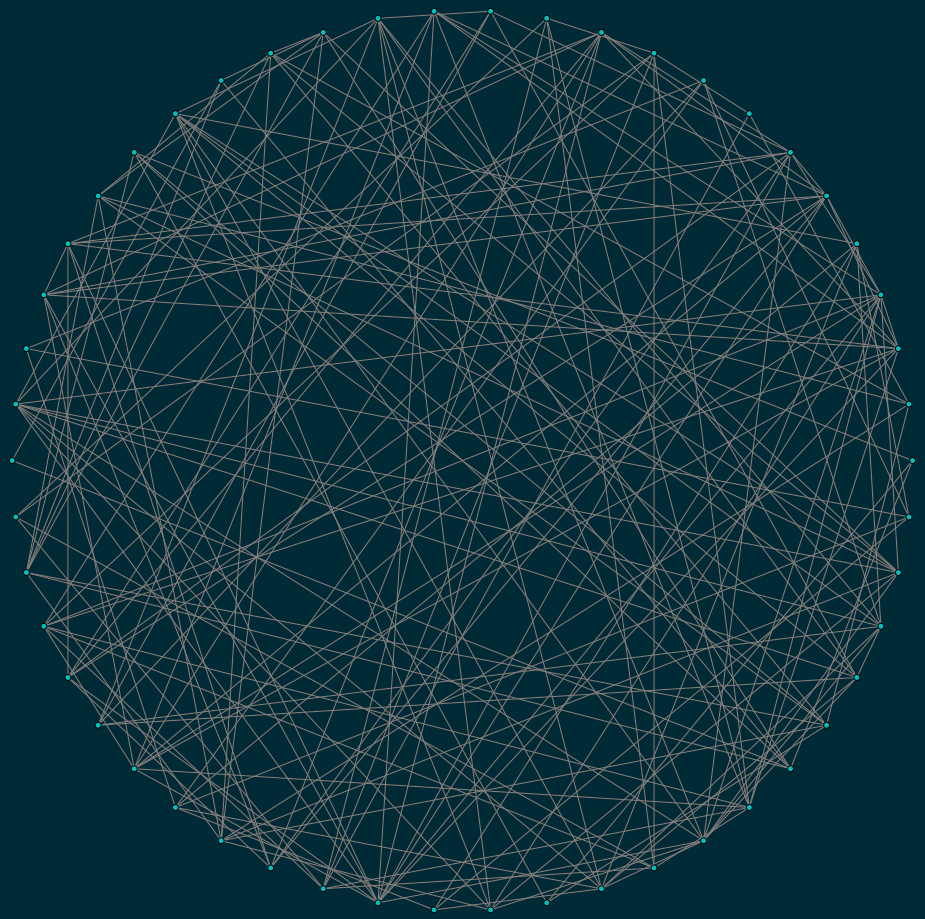
History Line



Nowak and May, 1992



What do real life interactions look like?



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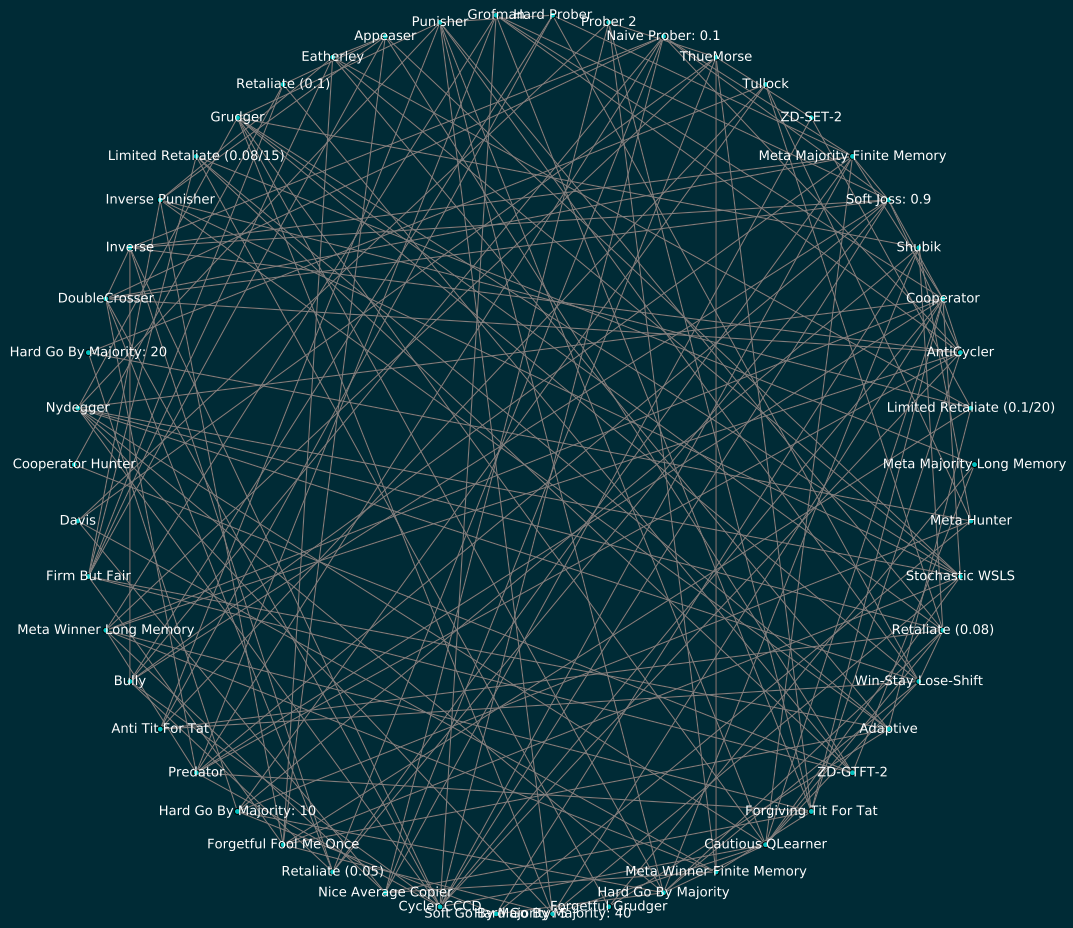
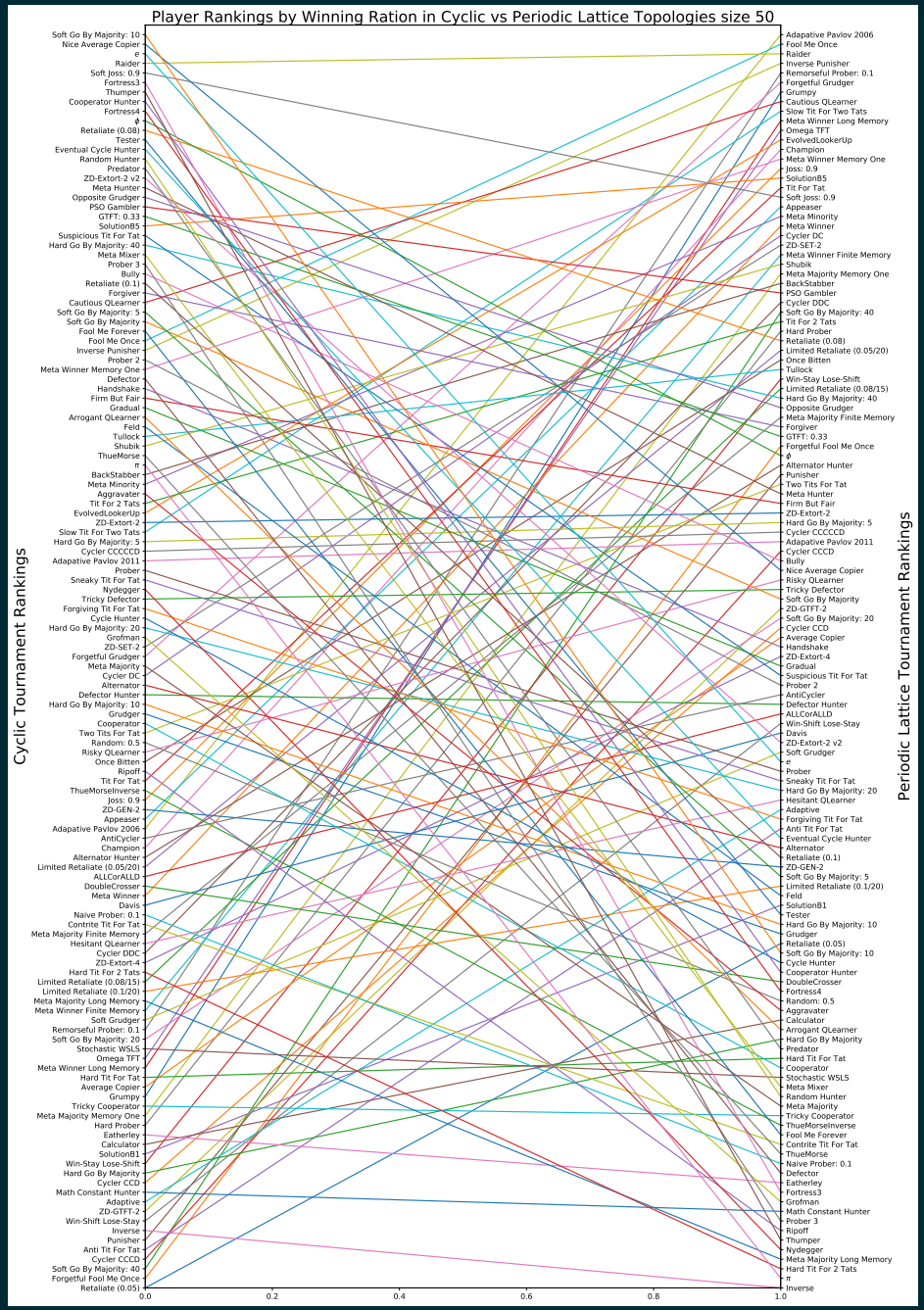
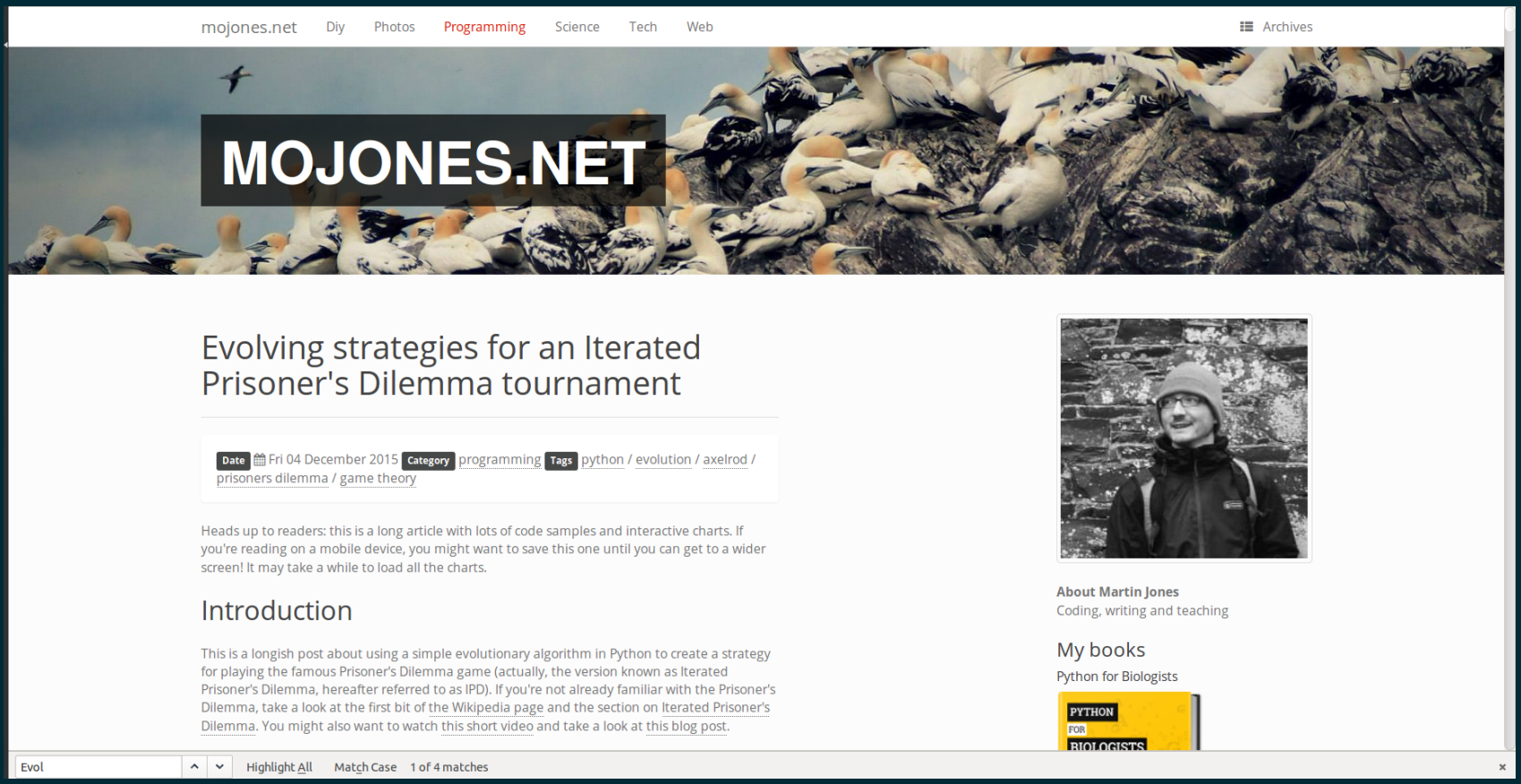
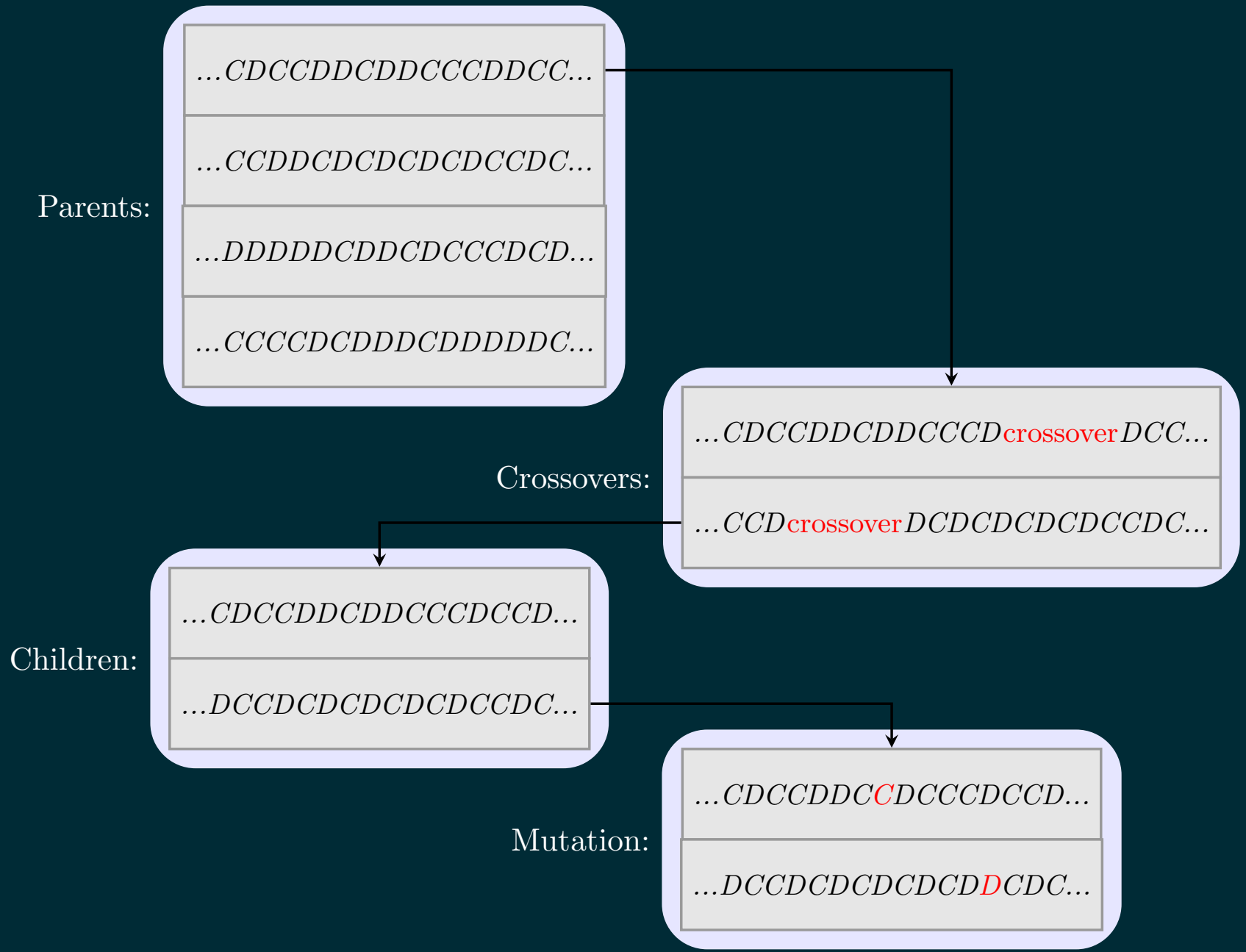


Measurements



Training a Strategy using Genetic Algorithm




Parents:
...CDCCDDCDDCCCDDCC...
...CCDDCDCDCDCDCCDC...
...DDDDDCDDCDCCCDCD...
...CCCCDCDDDCDDDDDC...
Crossovers:
...CDCCDDCDDCCCDcrossoverDCC...
...CCDcrossoverDCDCDCDCDCCDC...
Children:
...CDCCDDCDDCCCDCCD...
...DCCDCDCDCDCDCCDC...
Mutation:
...CDCCDDCCDCCCDCCD...
...DCCDCDCDCDCDDCDC...

Conclusions and Futher Research

Conclusions

- The topology affects the strategies performance
- Using regression we can predict 2/132 strategies behaviour
- None of the 132 strategies performed well in all experiments
- For specific spatial tournaments a satisfactory strategy has been trained

Plans for PhD

- Game Theory
- Machine Learning

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https://github.com/Nikoleta-v3
https://github.com/Axelrod-Python/Axelrod