

Homework 2

TIF150, Information theory for complex systems 2018

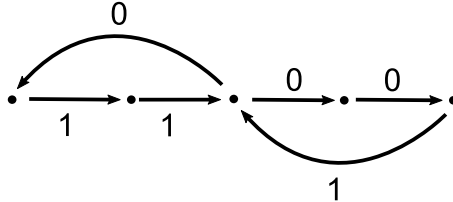
Document change log

31 January 2018: Updated deadline to Friday 9 February.

Correlation complexity

Consider the process defined by the finite automaton below. When two arcs leave a node they have the same probability.

- What is the entropy s of this stochastic process?
- How long correlations are there, i.e., for which m are $k_m > 0$?
- Determine the correlation complexity η .



Hand in your solutions no later than Friday 9 February at 13:15. Late submissions will normally not be graded. You may hand in on paper in class, or by emailing a PDF named yourcid.pdf, e.g. rasmuse.pdf, to Rasmus: [rasmus.einarsson\[at\]chalmers.se](mailto:rasmus.einarsson@chalmers.se). Hand-written solutions are fine, but please take care to make them legible.