
ANTHONY BONATO, Wilfrid Laurier University, Waterloo, ON N2L 3C5

Random graph models and the web

Much recent attention has focussed on the rigorous design and analysis of models for the web graph and other massive self-organizing networks. Models for these networks often incorporate copying in their design, where a new node imperfectly duplicates some of the link structure of an existing node. The motivation for copying models comes from the fact that each node acts as an independent agent, which will base its decision on how to link to the existing network on local knowledge. As a result, the neighbourhood of a new node will often be similar to that of an existing node. Consideration of copying models and their limiting behaviour have led to the discovery of new connections between random graphs, graph homomorphisms, vertex pursuit games, and infinite graphs.

This is joint work with Manuel Bodirsky, Peter Cameron, Dejan Delić, Jeannette Janssen, and Changping Wang.