

De-Preferential Attachment Model through Preferential Attachment

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Abstract

In this work, we will introduce a new model of a growing sequence of random graph, where vertices with high degree are preferred except a few higher degree vertices. The model may be described as follows: at every discrete time step, a fixed proportion or a fixed number of the existing vertices are chosen according to some random/deterministic rule preferring higher degree vertices which are then made “taboo” vertices. A newly arrived vertex is then allowed to join only to the non-tabooed vertices but via a (linear)-preferential attachment scheme. We will discuss asymptotic properties of this novel model. In particular, we will present results on fixed degree asymptotic and asymptotic degree distribution and compare the findings with the preferential attachment model introduced by Albert and Barabasi (1999). This is a joint work with Somak Laha..

Keywords:

De-Preferential Attachment; Preferential Attachment; Random Graphs; Taboo-Vertices.