Master Thesis proposal

Investigating Dynamical Models of Opinion Forming on Social Networks

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December 3, 2015

This proposal is for a Master thesis in the field of Social Network Analysis. The aim is to study models of opinion dynamics on “social networks” i.e., on graphs in which nodes represent “agents” and edges represent communications between agents. Several models exists in order to describe the dynamical processes of opinion forming on such social networks. A readable survey is the following paper:


The work proposed will build on these and similar models, for instance those described in the following papers


Questions of relevance to the thesis are for instance the following. When can the agents achieve a consensus to a common opinion? How is an opinion spread and propagated through the network, and how can such spreading process be controlled? The student will be asked to reproduce some of the models developed in those papers and to investigate their properties, through theoretical analysis and simulation (e.g. in Matlab).

The ideal candidate for the thesis will have a curriculum in Engineering or Applied Mathematics. Experience and/or interests in systems analysis and control theory is highly recommended.