



Modelling of opinion dynamics in social networks

Candidate : The candidate should be finishing a masters or an engineer diploma, majoring in areas related to computer science, statistics or applied mathematics.

Hosting lab : Centre de Recherche en Automatique de **Nancy, France**

Supervisor : **Samuel Martin**

cran.univ-lorraine.fr/perso/Samuel.Martin/
samuel.martin@univ-lorraine.fr

Keywords: Opinion dynamics, social networks, machine learning, modelling, complex systems.

Subject

Opinion dynamics in collective decision processes play a key role in society, in fields such as politics and economics. Best examples of how opinion dynamics are involved in our daily life include information diffusion on online social networks, election campaign or reputation systems for online shopping. Understanding how such opinions evolve as a result of social influence has been a growing concern over the past decade. This finds applications in marketing or participative governance.

The objective of this project is to model how the opinion will change as a result of social interactions. In order to deal with such a challenge, the student will work on a dataset related to online collective decision processes involving more than 600 individuals. The analysis of the dataset will be carried out using algorithms from signal processing such as regression methods, with linear or non-linear techniques.

Required skills : Matlab, machine learning, graph theory, dynamical systems, signal processing.

Gratification : 500,51€ per months

Duration : between 3 and 6 months

Beginning : between January and April 2015