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Title: **Ranking social network users by their posting activity**
Where: Sorbonne University, LIP6-NPA and LIP6-ComplexNetworks
Starting date: As soon as the position is filled, preferably not later than 01 March 2019.

Context:
Social Networks are an important source of information in everyday life. An individual wishes to communicate its opinion or everyday activity with its close peers, by uploading text or content to its profile newsfeed (see e.g. Twitter or Facebook). She will also want to obtain similar information that regards its friends and relatives. An organism or a company might want to create public awareness of some situation or might want to promote a new product, by using similar social network services. New content will thus be introduced into the network at some point in time and will gradually spread within, influencing a part of the network (or the whole).

Aim:
The aim of the stage is to study the effect of frequency of user activity, i.e. the frequency with which content is pumped into the network or is reproduced by each individual. In this way the stage should:

- Consider novel user-ranking metrics that capture the frequency of activity (new post production, or re-production).
- Compare the novel metrics with existing user centrality metrics.
- Identify optimal behaviour with respect to the new metrics.
- Investigate how bots and other malicious nodes spread information and propose mechanisms to reduce their social effect.

Tasks:
During the stage, the student will familiarise her/himself with new modelling tools. For that, a good understanding of matrix analysis and Markov chain modelling is necessary. The main focus of the stage will be on data-analysis and use of social network traces in order to rank users, identify key nodes, and study user behaviour and influence of user-classes and communities.

Who we are looking for:
The potential candidate should have: 1. confidence in Python language,
2. experience with datasets and data-analysis of social networks, 3. knowledge on Matrix Analysis and Markov Chains.

Duration/Salary:
The Stage will have a duration of 6 months. The monthly salary is 554.40 euros + 35 euros reimbursement for transport expenses.

Responsible:
- Anastasios GIOVANIDIS, Clemence MAGNIEN, Bruno BAYNAT, Emails:
{anastasios.giovanidis, clemence.magnien, Bruno.Baynat}@lip6.fr

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