Postdoc topic: A feedback perspective on the interactions between users and news contents in social media

Advisors: Paolo Frasca

Duration: 1 year, available immediately (earliest possible starting date in March)

Application procedure: Contact the supervisor at paolo.frasca@gipsa-lab.fr

Candidate profile: The candidate will hold (or be close to obtaining) a PhD degree in a relevant discipline, such as Automatic Control, Computational Social Sciences, or Applied Mathematics.

Context: The position is part of the project “FeedingBias: A multi-platform mixed-methods approach to news exposure on social media”, funded by the French national science foundation ANR. The researcher will join the DANCE (Dynamics and Control of Networks) research team, will be jointly affiliated with GIPSA-Lab and PACTE research centers of the University of Grenoble Alpes in Grenoble, France. DANCE team’s research deals with modeling, estimation and control of network systems, with a broad spectrum of theoretical and applied topics including smart transportation, social dynamics, and large-scale complex networks.

Scientific scope and objectives: The way people access news has changed. In the past, they had to actively search for offline as well as online content and therefore had an active role in the selection of their news diet. This process is often referred to as selective exposure in the literature. Nowadays, with the rise of social media, news appears on people’s feeds mostly as a byproduct of one’s social relations (organic content), of AI-driven algorithmic profiling and curation (suggested content), or as a product of paid targeting strategies from companies (paid content).

In online platforms, recommender systems are broadly responsible for directing users to relevant content. In order to enhance the users' engagement, recommender systems adapt their output to the reactions of the users, who are, in turn, affected by the recommended content. This feedback loop has been recently recognized in the literature [Jiang 2019] and following this recognition [Rossi 2022] has provided a tractable analytical model of a user that interacts with an online news aggregator: the latter model makes explicit the feedback loop between the evolution of the user’s opinion and the personalized recommendation of content.

The candidate will focus on modeling the interactions between users and platforms, which take place through the recommendation and fruition of contents, and build upon recently developed analytical models. The candidate will benefit from the team’s expertise in media science and will have access, for the validation of their models, to relevant datasets from YouTube and other platforms.

Literature