SHADEN SHABAYEK

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RESEARCH INTERESTS

Social networks, opinion dynamics especially the drivers of opinions polarization, misinformation with a special focus on the characteristics of actors, reactance to misinformation policies on mainstream platforms and migration towards alternative platforms such as Telegram. I am more and more interested in combining qualitative methods (to study actors) and quantitive methods. I also look forward to study the (strong) connection between the online climate discourse and the "offline" climate discourse, from the perspective of actors (social media users, versus experts) and also regulatory pressure (top-down from platforms and regulators when it comes to climate disinformation, versus bottom-up when it comes to industrial lobbying).

CURRENT POSITION

Post-doctoral researcher, MediaLab, SciencesPo (Webclim project). *Feb. 2021-August 2022*

Current Work in progress:

⋆ Climate discourse on Twitter: alternative content moderation (2022), with E. Vincent

[abstract] Over the past years, mainstream social networking platforms have increasingly implemented misinformation-related interventions; such as suspension of accounts, deletion of harmful content and labelling of misleading or false content. These interventions have been subject to criticism for their potential negative side effects. In this present research, we investigate possible alternative approaches based on metrics which could inform users about the reliability of influential social media accounts. We focus on the topic of climate change, which is prone to misinformation and misperceptions in spite of the existing scientific consensus. Following a qualitative approach, we build a dataset of influential Twitter accounts, which we categorize as promoting science (a priori high reliability) or activism either to promote (activists) or oppose (delayers) climate actions (of unknown a priori reliability). We investigate metrics that allow us to best discriminate accounts between these groups. We first show that the reliability of domains in Tweets sharing articles (as assessed by journalists and fact-checkers) correlates with group membership, and is especially low for accounts opposing climate action. Second, a natural language processing approach shows that the topics or "narratives" present in the content of Tweets correlate with the account's group and can be used to help identify low credibility accounts.

⋆ Monitoring misinformation related interventions by Facebook, Twitter and YouTube: methods and illustration (2022), with H. Théro, D. AlManla, & E. Vincent

[abstract] There is growing pressure for mainstream platforms, such as Facebook, Twitter or YouTube, to fight misinformation by moderating the content that spreads on their site. We investigated the interventions of the platforms by collecting social media data via APIs and scraping. These interventions can be classified into three broad categories: (i) temporary or permanent suspen- sion of users, (ii) displaying flags and information panels, and (iii) reducing the visibility of some content. We provide examples illustrating how researchers can monitor the interventions within each of the three categories for each platform. Finally, we discuss the restrictions to access data and the lack of transparency regarding misinformation related interventions, and how to help the academic community, NGOs and data journalists to successfully study online misinformation.

⋆ Measuring the effect of Facebook's downranking interventions against groups and websites that repeatedly share misinformation (submitted), with H. Théro & E. Vincent

[abstract] Facebook has claimed to fight misinformation notably by reducing the virality of posts shared by "repeat offender" websites. The platform recently extended this policy to groups. We identified websites and groups that repeatedly publish false information according to fact-checkers and investigated the implementation and impact of Facebook's measures against them. Our analysis reveals a significant reduction in engagement per article/post following the publication of two or more 'false' links. These results highlight the need for systematic investigation of web platforms' measures designed to limit the spread of misinformation to better understand their effectiveness and consequences.

WORKING PAPERS

Hidden Opinions: polarization in social networks *January 2020*

[**Abstract**] This paper widens the scope of analysis of opinion dynamic models by introducing a novel heuristic: individuals choose to express their opinion or hide it, as a function of their local popularity. Intuitively, individuals who hide their opinion could be interpreted as individuals who have a low popularity such that even if they speak-up (or tweet) they will not be heard. Local popularity captures the idea that immediacy causes higher influence. Locally popular individuals express their opinion and can interact with like-minded or ideologically-opposed peers, namely expression entails debates and discussions. In the presence of hidden opinions, I show that the interactions between locally popular individuals and the magnitude of their influence explains whether consensus or polarization prevails. The primary mechanism at play is that the influence structure allows for consensus of opinion locally but communication between ideologically opposed expressers lead to global disagreement. The main contribution of this paper is to provide a unifying theoretical framework to assess different long-run opinion patterns with a focus on the topology of the network. I provide a measure of polarization and I run simulations to show the extent to which the topology of the network affects long-run opinion patterns.

Strategic cultural migration with peer effects (with A. Lochmann) *October 2020*

Targeting in Social Networks with Anonymized Information (with F. Bloch) *Sep 2019*

DIPLOMAS

Qualification aux fonctions de maître de conférence (section 05 CNU) *2022*

⋆ pre-examination in the French educational system to become a permanent lecturer.

Panthéon-Sorbonne, Paris I - Paris School of Economics: Phd in Economics *2021*

⋆ Thesis title: *Behavior, Opinion Formation & Cultural Identity in Social Networks*
Thesis Supervisor: Francis Bloch.
Jury: Marie Laclau, Ana Mauleon, Paolo Pin, Agnieszka Rusinowska, Fernando Vega-Redondo.

Ecole Normale Supérieure de Cachan: Diplôme de l'ENS de Cachan *2016*

EHESS - Paris School of Economics: Master II, Analysis & Policy in Economics *2015*

Panthéon-Sorbonne, Paris I : Master I, Theoretical & Empirical Economics *2014*

Université Pierre et Marie Curie, Paris VI: B.S. in Mathematics *2013*

Panthéon-Sorbonne, Paris I: B.S. in Economics *2012*

SEMINAR & CONFERENCE PRESENTATIONS

- ⋆ Medialab Seminar, SciencesPo (online), Paris , France *September 2021*
- ⋆ CES Research Group *Networks and Games* (online), Paris , France *June 2020*
- ⋆ TOM seminar, Paris School of Economics (online), Paris, France *June 2020*
- ⋆ Conference on Economic Design, Budapest, Hungary *June 2019*
- ⋆ Coalition Theory and Networks conference, Aix-en-Provence, France *May 2019*
- ⋆ Networks reading group, University of Cambridge, Cambridge, UK *May 2019*
- ⋆ 5th Annual Conference on Network Science in Economics, Bloomington, USA *April 2019*
- ⋆ Spring Meetings of Young Economists, Brussels, Belguim *April 2019*
- ⋆ CES Research Group *Networks and Games*, Paris , France *September 2018*
- ⋆ Summer School on Network Theory CIGNE, Roscoff, France *June 2016*

TEACHING EXPERIENCE

Université Paris Sud: Lecturer, bachelor level. March 2021

- ⋆ Introductory course (3h) on "Networks, Rumors & Fake-News".

Panthéon-Sorbonne, Paris I: Teaching assistant, bachelor level. *2016-2021*

- ⋆ Statistiques et probabilités, Algèbre et Analyse, Algèbre linéaire et optimisation, Institutions: protection sociale.

Université Catholique de Louvain: Teaching assistant, bachelor & masters level. *2015-2016*

- ⋆ Management Science [optimization, shortest path algorithms], Econometrics.

TECHNICAL SKILLS

- ⋆ Python: data collection via the Twitter API (JSON payload), data analysis (Pandas), visualization (matplotlib, networkx), Topic Detection (top2vec).
- ⋆ Matlab: network modeling, opinion dynamics simulations.
- ⋆ Gephi (occasional), R (occasional), Stata (very occasional), SPSS (for teaching purposes at UCL).

RESEARCH EXPERIENCE AND VISITS

Université Paris Sud: Research engineer within a project (by Prof. M. Comola) *Spring/Sum. 2022*
Construction of a Twitter corpus of a large set of French politicians, pre and post presidential elections.

University of Cambridge: Visiting Phd student (prof. Sanjeev Goyal) *Spring 2019*

Paris School of Economics: Lab assistant network experiments (prof. M. Comola) *2018-2019*

CORE - Université Catholique de Louvain: Visiting pre-doctoral student *2015 - 2016*
Work on network formation with farsighted agents (prof. A. Mauleon & prof. V. Vannetelbosch)

French Economic Observatory (OFCE): Research assistant *Summer/Fall 2015*
Empirical work with the World Input Output Database (prof. X. Ragot)

LANGUAGES

French (fluent), English (fluent), Arabic (Egyptian, mother tongue), Spanish (very basic).

SCHOLARSHIPS

Phd grant, *Ecole Normale Supérieure de Cachan* *2016- 2019*
ATER teaching & research grant, *Université Paris 1 Panthéon-Sorbonne* *2019- 2021*

SOCIAL ACTIVITIES RELATED TO ACADEMIA DURING MY PHD

- ⋆ Co-organizer of the EAYE second workshop on social networks, at PSE *Fall 2019*
- ⋆ Organizer of the Networks reading group at PSE *2018-2019*
- ⋆ Member of the Ethics committee at PSE *2019-2020*
- ⋆ Phd students representative at PSE *2018-2020*