

Doctoral Researcher in Computational Social Sciences

The médialab at Sciences Po is hiring a doctoral researcher to work on the impact of artificial intelligence on socio-political and media dynamics for project “AI-Political Machines”

About médialab and Sciences Po

The [médialab](#) is an interdisciplinary research laboratory of Sciences Po in Paris. It brings together sociologists, engineers, designers, and computer scientists, who carry out thematic and methodological research exploiting and questioning the place taken by the digital transformation in our societies. The médialab is highly committed to computational methods and to developing research in computational social sciences.

About the project “AI-Political Machines” (AIPM)

This position is part of the project AIPM (AI-Political Machines), funded by the [McCourt Institute](#), devoted to conducting research tackling the challenges of the Internet, Artificial Intelligence, and their impact in society. The goal of AIPM is to improve the understanding of how AI systems perceive large social, political, and informational online systems, and the implications are for algorithmic mediation and the impact on social phenomena. Most AI systems mediating digital ecosystem (generating friend and content recommendations, filtering content, and assisting online searches) are trained using digital traces: networks of friends in social platforms (social graphs), content consumption (clicks, views, shares, retweets, etc.), in addition to text and images, to name a few. The goal of the project is to improve the understanding of what these systems are implicitly inferring about users for producing outputs such as recommendations. Are AI systems capable of inadvertently learning political stances of users when computing recommendations? What are the effects of algorithms mediating digital space in opinions and polarization, or agenda setting dynamics? How to leverage knowledge about machine perception of large social systems in designing better AI systems?

AIPM is set in a highly interdisciplinary environment, including sociologists, political scientists, computer scientists, and mathematicians. The project will be developed inside the médialab, but in interaction with other projects and researchers from Sciences Po and other partner institutions in France and abroad.

Key research themes of the position

The doctoral researcher is expected to develop research in the following themes intersecting at AIPM:

- **Deep Learning on social networks and news content:** We are interested in research on AI recommender systems, trained on social network data for friends recommendation, or in information consumption for news recommendations. In particular, we are interested in conducting experiments, training recommenders for friends and content recommendations (e.g., using Graph Neural Network frameworks) and exploring AI interpretability methods.
- **Agenda setting dynamics:** We are interested in improving the understanding of how media organizations, political institutions and social media platforms shape the selection of the major issues of public debate.
- **Opinion dynamics:** We are also interested in the models of opinions and studying mechanisms through which they evolve; in particular in systems that include algorithmic mediation in complex social and informational networks.

Profile and skills

The hired doctoral researcher must be able to conduct data analyses of social and media platform data and conduct experiments involving training and deploying machine learning and deep learning algorithms. In particular, the project involves network modelization, and the use of Graph Neural Network and other Recommender System algorithms and methods. The candidate must also have a real interest in learning social sciences and developing team work.

We encourage students with a natural sciences and technology background (e.g., engineering, computer science and mathematics) interested in becoming proficient in social sciences to apply for the position. Applicants with a background in social sciences (e.g., sociology, political science) and strong computational and modelling skills are also encouraged to apply.

The position

The doctoral researcher will join médialab at Sciences Po in Paris and work with researchers, software engineers, designers, and data scientists. This is a good opportunity to learn a wide range of data science tools in the domains of machine learning, network analysis, with applications to political and social analysis. You are expected to profit from exchanges with other ongoing projects, including the “European Polarisation Observatory” developed jointly by Sciences Po, the London School of Economics, Bocconi University and the Central European University, and project “Medialex” developed by médialab, CREST-Polytechnique, Institut National de l’Audiovisuel, and the LATTICE team from ENS.

This position is fully funded by the McCourt Institute for 36 months, starting **October 2022**.

To apply

Send a cover letter detailing your motivation and relevant skills for the position and a CV including all the information you deem relevant (for example publications/drafts if any, experience, relevant courses, code repositories) before February the 28th 2022 to recrutement.medialab@sciencespo.fr (starting the subject of the email with “[AIPM]”) to receive full consideration.

For inquiries about the position do not hesitate to contact us:

pedro.ramaciottimorales@sciencespo.fr

sylvain.parasie@sciencespo.fr

As part of its gender equality policy, Sciences Po and the médialab encourage women to apply.