

Postdoctoral Researcher (apply by June 28, 2023)

The médialab at Sciences Po is hiring a Postdoctoral Researcher to work on mathematical modeling of political opinions, interactions in online social platforms, and algorithmic recommendations

About médialab and Sciences Po

The [médialab](#) is an interdisciplinary research laboratory of Sciences Po in Paris. It brings together sociologists, political scientists, engineers, designers, mathematicians, and computer scientists, who carry out both applied and theoretical research questioning the place taken by the digital transformations in our societies. One of the main research axes of the médialab is the understanding of the digital public space through formal methods and theories with bases in social sciences.

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

The offered position is part of the AIPM project, funded by the [McCourt Institute](#), a research center established at Sciences Po in Paris and Georgetown University in Washington DC, devoted to conducting research tackling the challenges of the Internet, Artificial Intelligence, and their impact in society. The goal of project AIPM is to improve the understanding of how AI systems perceive large social, political, and informational online systems, and what the implications are for algorithmic mediation and recommendation, and their impact on social phenomena. Most AI systems mediating social platforms (e.g., generating friend and content recommendations) are trained using digital traces: networks of friends in social platforms (social graphs), content consumption and behavioral trace data (clicks, views, shares, retweets, etc.), in addition to text and images. AIPM seeks to improve the understanding of what these systems are implicitly inferring about users when trained to propose algorithmic 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? How to leverage knowledge about machine perception of large social systems in designing better AI systems?

AIPM is a highly interdisciplinary project, leveraging theories and methods from political sciences, computer sciences, cognitive sciences and applied mathematics. Applicants are expected to interact with researchers from these disciplines and from several partner institutions in Europe and the US.

Research axes

The project is hiring to support one or several of the following research axes:

- **Modeling of political opinions:** We develop formal models of political attitudes and ideologies of individuals. We use digital data traces from platforms and models from social psychology to estimate multidimensional political opinions.
Keywords: ideology scaling, bayesian inference, graph embedding, random graph models, item-response theory, political attitudes.
- **Interpretability of AI:** We develop new methods to understand, measure, and manipulate representations learned by recommender systems and other AI systems in the context of online political debates and ecosystems.
Keywords: representation learning, transformers, interpretability and explainability of AI, language models.
- **Modeling of user behavior and opinion dynamics in social media:** We seek to improve understanding of how social platform features impact opinion dynamics through agent-based simulations mixing platform affordances, algorithmic recommendation, and opinion dynamics.
Keywords: opinion dynamics, stochastic simulation, social polarization, group dynamics.

We seek candidates able to contribute to one or several of these axes developing new methods and theoretical approaches. **If you do not know how your research expertise fits these topics but you are interested in the position, we encourage you to submit your application.**

Desired profile

- PhD in mathematics, computer sciences with knowledge or interest in social sciences. PhD in political sciences, sociology, psychology or cognitive sciences with strong mathematical background.
- Knowledge and experience coding data analysis or computational simulations. Having strong computational skills is a plus. Please include your Github page in your CV if you have one.
- Provable publication track record commensurate with your years of experience in research. Please include a list of publications in your CV or a link to it (e.g., Google Scholar profile).
- An ideal candidate would be able to conduct data analysis with state of the art methods, but also to produce formal theoretical results.
- **Candidates looking for a change of discipline are welcome and encouraged to apply.**

What we offer

- A great and innovative environment to pursue computational social science research. You will join a team of experienced researchers and engineers developing cutting edge tools in social network analysis. We develop research projects with partners across Europe and the US in a variety of topics related to social media. Our team also offers the possibility to develop interactions with policy and regulation ecosystems.
- The opportunity to work with exciting data and on phenomena related to social and political polarization, extremism, and more broadly participating in research bringing an understanding of online political dynamics. The candidate will have access to datasets with data traces of online behavior of large populations in several countries and in different political contexts. The hired postdoctoral researcher will also be able to propose a personal research agenda leveraging these unique data.
- From **36k€/year to 42k€/year gross salary** depending on the experience of the candidate, for a duration of 2 years, in addition to restaurant vouchers, partial commuting costs, **40 days paid leave per year (+5 RTT)** and competitive health insurance complementary to the national healthcare system. **Remote work is possible up to 2 days per week.**

Starting date: The hired person would ideally begin working in **October 2023** (but there is some flexibility to arrange for different starting dates during September-December).

Deadline: Applications sent by the **28th of June 2023** will receive full consideration, but applications will be reviewed until the position is filled.

Interviews: Selected candidates will be invited to an **interview the week of the 3rd of July 2023**.

How to apply: If you are interested in the position please send us CV and a 1 page cover letter (indicating the date at which you could start) to:

recrutement.medialab@sciencespo.fr

For questions about the position, please contact pedro.ramaciottimorales@sciencespo.fr