

Post-doctorate in Sociology or Political Science

Algorithmic Innovations and Experiments in Policing Activities

General context

Predictive policing" is a vague expression, which has developed in France in the context of the algorithmic turn that our contemporary societies are experiencing. It refers to a variety of intelligent devices (video surveillance with facial recognition, use of biometric data, etc.) operating from massive data explored and put into algorithms in order to prevent and anticipate delinquency (IAUF, 2018). Among the cases of "predictive policing," the best known is the Predpol software, designed by an American startup and actually used in the United States. Its algorithm is based on a machine learning model, derived from seismology and earthquake anticipation (Benbouzid, 2018). From historical crime statistics, it establishes a map of hot spots on which patrols are directed.

While the literature on the subject is abundant, it mainly focuses on the ethical issues related to the use of algorithms of this type: risks of algorithmic bias, particularly discriminatory, issues relating to the protection of fundamental freedoms, given the data used and the risks of increased surveillance (Brayne, 2017; Ferguson, 2017). The political dimension of the models used is also highlighted (Kaufmann, Egbert, & Leese, 2018).

In the French context, while there has been a lot of talk about "predictive policing," use cases are rare. A few experiments have been identified (IAUF, 2018), including Paved (Plateforme d'analyse et de visualisation évolutive de la délinquance), an algorithmic device for the prevention of burglary and vehicle damage, designed and experimented with by the Gendarmerie nationale in eleven departments. How did this system come into being? What work was done on the data? What model was used to design the algorithm? Who are the actors who contributed to its development within the Gendarmerie and/or with external providers? What exactly are its functionalities and how is it integrated into police work? What are the effects on the relationship between the Gendarmerie and other security actors?

Missions of the post-doctoral fellow

The objective of the proposed post-doctoral contract is to develop sociological knowledge of algorithmic and organizational innovations in the field of policing based on empirical analysis. Several directions will be pursued: emergence and development of new skills among security professionals, integration of new profiles (data scientists for example) in teams that design new devices, political dimension of the design of the models used, uses of algorithms (integration into existing practices and organizations, articulation with other equipment already available), positioning and investment issues of public and private actors (Police, Gendarmerie Nationale, local authorities, private companies including startups, etc.) in the development of algorithms in the field of security.

The post-doctoral fellow will analyze the different steps and aspects of the algorithmic work, from the production of data to the uses of the algorithm.

The investigation sites will be chosen at the beginning of the post-doctoral contract, among the projects currently conducted in France (either in the Gendarmerie Nationale, the police or by other security actors). A partnership with the Gendarmerie Nationale is possible; it is under discussion.

The post-doctoral fellow is also expected to valorize - alone or in collaboration with members of the project - the results of his or her research in national or international communications and publications.

Position in the organization

He/she will be hosted in the PACTE laboratory's Regulations team where he/she will work in close collaboration with Thierry Delpuech (CR CNRS, sociologist), Laurence Dumoulin (CR CNRS, political scientist), and Kavé Salamatian from the University of Savoie (PR in computer science).

Desired profile

- PhD in sociology or political science
- Very good knowledge of interviewing and ethnographic observation
- Very good level in English
- Prior knowledge of AI technologies is not a prerequisite, but familiarity with issues in the field of familiarity with issues in the field of security and/or the implementation of security and the algorithmic turn of companies will be an asset.

Work environment

The post-doctoral fellow will be recruited for a period of 12 months starting October 1, 2021. The proposed salary corresponds to the employment grid for contractual researchers (young researcher HS03, i.e. a salary between 2395 and 3847 € gross monthly). All expenses related to the post-doc (material environment, travel, etc.) will be covered by the Chair.

Candidates must send their application to the following address before July 1st : laurence.dumoulin@umrpacte.fr. It should include :

- A letter of application (in French or in English);
- The PhD diploma and the thesis defense report;
- A CV

- A letter of recommendation appreciating the capacity to carry out the project (in French or in English).

References

Benbouzid, B. (2018). « Quand prédire, c'est gérer. La police prédictive aux États-Unis ». *Réseaux*, 211/5, 221-56.

Brayne, S. (2017), "Big Data Surveillance: The Case of Policing". *American Sociological Review*, 82 (5), 977-1008.

Brayne, S. & Christin, A. (2020), « Technologies of Crime Prediction: The Reception of Algorithms in Policing and Criminal Courts ». *Social Problems*, 1-17.

Chavent-Leclere, A.-S., Piotrowicz, C., Monier, H. (2018). Rapport sur la police prédictive et la résilience organisationnelle des acteurs de la sécurité intérieure, Université Jean-Moulin Lyon 3 / Centre des hautes études du ministère de l'Intérieur.

Ferguson, A.G. (2017). *The Rise of Big Data Policing: Surveillance, Race, and the Future of Law Enforcement*, New York: NYU Press.

Ferguson, A.G. (2019). « Predictive policing theory », In Lave T. R., Miller E. J. (Eds.), *The Cambridge Handbook of Policing in the United States*, Cambridge University Press.

IAU Ile-de-France (2019), *La police prédictive. Enjeux soulevés par l'usage des algorithmes prédictifs en matière de sécurité publique*, Rapport.

Leese, M. (2021). « Security as Socio-Technical Practice: Predictive Policing and (Non)Automation ». *Swiss Political Science Review* 27(1): 150-57.

Kaufmann, M., Egbert S., & Leese, M. (2018). « Predictive Policing and the Politics of Patterns ». *The British Journal of Criminology*, <https://doi.org/10.1093/bjc/azy060>.