**Post-Doc in Machine Learning (Multiple Fairness in Recommending Systems)**

The group dedicated to Research in Machine Learning, Statistics & Signal Processing (the research group S2A) in Télécom Paris is recruiting a postdoc in Machine Learning (18 months contact, extendable to 36 months). The post-doc recruited will take part in an interdisciplinary collaborative research project involving the SES (Economics and Social Sciences) department of Télécom Paris and the Caisse des Dépôts et Consignations, a leading French public financial institution.

**Research assignment**

Research activities will focus on fairness issues for recommendation engines designed by means of machine-learning methods. With the explosion of digitized content available online, recommender systems have become an essential technology and a key element in the development of new services. In a commercial context, the algorithmic principles at work (e.g. collaborative filtering, user/content-based methods, hybrid approaches) in their operation are most often aimed exclusively at maximizing user satisfaction and increasing the platform's level of use. In the context of a public service, many other criteria and objectives must be integrated to ensure a fair service from the point of view of both users and suppliers (multi-sided fairness). It is precisely the subject of this collaborative project to propose and analyze (theoretically and empirically) methods for achieving acceptable trade-offs between the relevance of recommendations and bias mitigation. In addition to producing methodological research, the post-doc's mission will also include applied work on the current version of a deployed recommendation system, aimed at quantifying the presence of different types of bias resulting from its operation.

*Keywords:* public service recommender system, fair and explainable AI, bias mitigation, multi-sided fairness

*Supervision:* the recruit will work under the supervision of
Sephan Clémençon (https://perso.telecom-paristech.fr/clemenco/)
Winston Maxwell (https://www.telecom-paris.fr/winston-maxwell).
Charlotte Laclau (https://laclauc.github.io/)

**Skills**

- Education : PhD in Computer Science or in Applied Maths
- A short international postdoctoral experience is welcome but not mandatory
- English: fluent
- Expertise in Python programming, familiarity with database queries
- Capacity to work in a team and develop good relationships with colleagues in other disciplines
- Excellent writing and pedagogical skills

**Knowledge and experience required**

- Research publications in Machine Learning (e.g. in Neurips, ICML, AISTATS, …)
- Knowledge of how recommending systems work
- Taste for AI applications and interest in its societal aspects

**Additional information**

The position does not involve teaching. However, on a voluntary basis, the postdoc recruited may take part in machine-learning courses (undergraduate/master level) coordinated by the supervisory team.

**The position**

- 18 months position (extendable to 36 months)
- Télécom Paris, 9 place Marguerite Perey - 91120 Palaiseau - France

**Application**

Applicants should submit a single PDF file that includes:

- motivation letter
- curriculum vitae
- one or two major publications
- contact information for one or two references

**Important dates**

- First-Quarter 2025: interviews with candidates (by visio-conference eventually)
- Spring 2025: beginning

**Contact for information/application**

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Charlotte Laclau charlotte.laclau@telecom-paris.fr
Winston Maxwell winston.maxwell@telecom-paris.fr

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