Laboratoire d'Informatique (LIX),
École Polytechnique,
Institute Polytechnique de Paris.

Postdoctoral Researcher Position on "Dynamic Graph Signal Processing" in the Computer Science Department of Ecole Polytechnique, France.

Many, if not most, real-world graphs are dynamic, such as for example, logistics networks, online social networks, sensor networks, and capital-ownership networks. With the pervasiveness of this data type comes a multitude of real use-cases and industrial-scale problems, which is creating an ever growing demand for new methodologies defined to process this data. In this research project, we plan to make use of our existing expertise in Reinforcement Learning, Graph Signal Processing and Graph Neural Networks to conceive new methodology bespoke to dynamic graphs. The planned research has the ambition to contribute directly to the state of the art in these active research topics and is suitable for candidates seeking either an academic or industrial career path.

The hired candidate will have the option to collaborate with a PhD student funded from the same project. With this student, we started working on the topic of "Reinforcement Learning for Graph Editing Problems", where we develop reinforcement learning models that modify given graphs, represented via trained graph neural networks, to satisfy a variety of desirable properties. Of course further close collaboration with different team members of the ORAILIX and DaSciM teams at the LIX lab and beyond is also perfectly possible.

In this context, we seek candidates with strong experience in a subset of the following (or closely related) topics:

- Graph Neural Networks,

- Statistical Signal Processing,

- Learning from Data Streams,

- Reinforcement Learning.

Candidates must have at least two of the following:

- a recent PhD degree in either Computer Science, Mathematics, or similar,

- analytical skills and creative thinking with a hard working attitude,

- very good programming skills (Python).

Ideally candidates also demonstrate the following:

- strong mathematical background (including Probability, Statistics and Linear Algebra),

- Machine Learning and Deep Learning skills (architecture design and optimisation),

- a sound publication record with visible impact.

Funding

The funding for this position has already been obtained, with a competitive salary secured for up to 24 months.

Applications

Interested candidates should send an email addressed to Jesse Read (`jesse.read@polytechnique.edu`) and Johannes Lutzeyer (`johannes.lutzeyer@polytechnique.edu`) by **19 October 2025** (or ideally, much sooner), attaching

- a cover letter including a brief presentation of their academic record and motivation as well as relevant skills and experience,

- a full CV with detailed grading information for the acquired degrees.

We will interview candidates on a rolling basis and will aim to fill this position as soon as possible.

Location

Successful candidates will be based at École Polytechnique located in Palaiseau, Paris area, France; specifically in the Computer Science Laboratory (LIX). The project will be co-supervised by professors Jesse Read (ORAILIX team) and Johannes Lutzeyer (DaSciM team).

This position would require you to work from our offices in the Computer Science Laboratory of École Polytechnique in the broader area of Paris. École Polytechnique is the premier engineering University of France and a founding member of the recently established Institut Polytechnique de Paris (which entered the international rankings in high positions). Famous scientists (including Nobel prize recipients) and industrial leaders are alumni of the school, offering an exceptional environment for research in the fast growing excellence pole of Saclay, hosting a rich ecosystem of industrial and academic research centers a few kilometers south of Paris. Additionally, it offers ample computing and recreation resources and facilities on the University campus. The research group, in which you would be integrated, has already had significant impact in local and international research and industrial activities with several high-impact publications and successful industrial projects.

We look forward to hearing from you,

| *Jesse Read* | *Johannes Lutzeyer* |
| Website, Google Scholar | Website, Google Scholar |

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