



Data Science and Mining Group

Laboratoire d'Informatique,
École Polytechnique,
Institut Polytechnique de Paris.

Postdoctoral Researcher/Research Engineer Position on “Graph Representation Learning with Biomedical Applications”

The use of Artificial Intelligence (AI) methodology is currently accelerating progress in the area of drug discovery at an impressive speed. Recent successes include the discovery of an antibiotic using an AI pipeline (Stokes et al., 2020) as well as the release of the already very impactful AlphaFold model which predicts the three dimensional structure of proteins (Jumper et al., 2021). This rapid scientific progress is also triggering increased industrial interest with Google’s Deepmind announcing the foundation of a new Alphabet subsidiary called *Isomorphic Labs* with the goal of industrialising AI-driven drug discovery. We are looking for a candidate willing to work in this exciting and dynamic space of scientific progress. Specifically, we would aim to involve the candidate in several projects in which we explore the potential of Graph Representation Learning methodology in the context of Biomedical applications.

Candidate Profiles Candidates must have at least two of the following

- a recent PhD degree in either Computer Science, Mathematics, Chemistry, Biology or Physics,
- analytical skills and creative thinking with a hard working attitude,
- very good programming skills (Python).

Ideally we are also searching for candidates with the following desired qualifications

- strong mathematical background (including Probability, Statistics and Linear Algebra),
- Machine and Deep Learning skills (architecture design and optimisation, good understanding of Transformers or Graph Neural Networks),
- an understanding of biological application domains,
- a sound publication record with visible impact.

Funding The funding for this position has already been won and competitive funding for up to 36 months is available.

Applications Interested candidates should send an email addressed to both Michalis Vazirgiannis (mvazirg@lix.polytechnique.fr) and Johannes Lutzeyer (johannes.lutzeyer@polytechnique.edu) and attach the following

- 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 This position would require you to work from our offices in the Computer Science Laboratory of École Polytechnique in the broader area of Paris (a-priori no remote work component is planned). 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 Data Science and Mining 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,

Prof. Michalis Vazirgiannis
Distinguished Professor
[Website](#), [Scholar](#), [Twitter](#)

Dr. Johannes Lutzeyer
Assistant Professor
[Website](#), [Scholar](#), [Twitter](#)

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