

Several postdoctoral research positions in Bayesian optimization and/or simulation-based optimization

The research will design Bayesian optimization and/or simulation-based optimization algorithms with a focus on sample-efficient methods for high-dimensional stochastic optimization problems that arise in the areas of urban mobility and supply chain. Both continuous and discrete problems are of interest. The research projects involve collaboration with private and public sector mobility and supply chain stakeholders.

The work will be performed in Prof. Carolina Osorio's team, as part of the Scale AI Research Chair in Artificial Intelligence for Urban Mobility and Logistics, in the Department of Decision Sciences at HEC Montréal. Details on the scope of our past work can be found [here](#), including recent publications and some working papers. Potential affiliations for the postdoctoral candidates include the research centers of [CIRRELT](#) and [GERAD](#), as well as numerous career opportunities within the [Scale AI](#) and the [IVADO](#) ecosystems.

About the team. We combine academic backgrounds and interests in mathematics, computer science, operations research and transportation. The team is led by Osorio, who is a faculty at HEC Montreal and a Research Scientist at Google AI. We are passionate about designing models and algorithms that can tackle transportation and logistics problems at scale. Our work has been recognized by a variety of academic and broader impact awards, [detailed here](#).

Application process. A Ph.D. with a strong background in mathematics, operations research, computer science, statistics, or other related disciplines is required. A successful candidate should have strong proficiency in programming and strong interest in transportation applications. Applicants are invited to submit: (i) a full CV, (ii) a copy of all their university-level transcripts, (iii) a short statement (at most 3 pages) describing why they want to work on this topic, what subtopics they would like to focus on (e.g., describe the first few papers they'd like to work on) and why they think they are qualified to do so; (iv) the names and contact details of three references (including graduate supervisors). If desired, applicants can include a copy of one of their scientific publications. All documents should be compiled into a single pdf file and sent to Osorio's HEC email with the subject "Postdoctoral Application".