FICHE DE POSTE

Service : Direction de la Recherche **Unité : LIGM**

Intitulé du poste : Chercheur

Date : septembre 2025

Institution

École Nationale des Ponts et Chaussées (National School of Bridges and Roads) is a higher education and research institution specializing in science, practices, and economics, working to address the challenges of sustainable development. Under the supervision of the Ministry of Ecological Transition (MTE) and with the status of a Public Scientific, Cultural, and Professional Institution (EPSCP), its missions include initial and continuing education, research, knowledge dissemination, transfer to economic sectors, and business creation support. Its activities span both national and international levels. With an average staff of 450, it is primarily organized around three divisions: Training (Engineering Cycle, Master's, Specialized Master's), Research (12 laboratories), and Support Services. Since its founding in 1747, the oldest engineering school in France has consistently been at the forefront of innovation in curriculum organization and content, constantly engaging with research of recognized excellence, which it strives to promote. It is part of Institut Polytechnique de Paris (IPP), one of the top-ranked universities in France.
The host laboratory, LIGM, is a leading computer science research laboratory, jointly conducted with the CNRS and Gustave Eiffel University. Research activity at École Nationale des Ponts et Chaussées, in the IMAGINE group (https://imagine-lab.enpc.fr/) that will host the position, focuses on artificial intelligence, with a particularly strong and internationally recognized focus on computer vision.

Job description

Advances in AI research are now having dramatic impacts on other domains as attested by the 2024 Nobel Prize in Chemistry attributed to protein structure prediction and computational protein design, the latter stemming from diffusion generative models first developed to generate images.

The goal of this open position is to develop core AI methods and foundation models solving problems arising in a domain from another laboratory at École Nationale des Ponts et Chaussées. This **“Computer Vision for X”** profile is expected to make contributions to the development of AI research that lead to strong impacts on another field related to the ecological transition. Examples include but are clearly not limited to:

- Geospatial and economic foundation models: proposing new architectures and training strategies well suited for geospatial-economic data
- Biodiversity foundation models: advancing research on Vision-Language Models and tackle biodiversity from visual and textual data
- Generative AI for climate change: developing foundational generative models that can predict climate change impacts over long periods of time
- 3D foundation models for civil engineering: introducing novel 3D vision algorithms to enable digital twins during construction or maintenance
- Vision-Motion foundation models: proposing efficient visual-control architecture for robotics

The research outcomes are core AI contributions, such as the ones made at IMAGINE, a team internationally recognized for its core AI contributions, with the goal of having an impact on the research of another laboratory at ENPC. Candidates are expected to be core contributors of AI research and produce novel algorithms that are enabling breakthroughs in the downstream tasks of the targeted application domain.

Requirements :

Candidates are expected to have:

- Completed a PhD degree in computer science or other domain related to AI
- An excellent record of publications in computer vision/robotics/machine learning (e.g., CVPR, ICCV/ECCV, NeurIPS, ICML, ICLR, ICRA, IROS)
- Some expertise in an area complementary to that of the lab (e.g., environmental science, robotics, geospatial data, etc)
- Some teaching experience and the will to participate in the teaching at IP Paris level is a plus, but not mandatory

Position:

The position is offered for 4 years with a competitive salary (negotiable) and a starting package for hiring 2 PhD students.
The lab is located in Champs-sur-Marne (25 minutes from Paris city center using public transport).

Application:

Application deadline: May 31st 2025
Requested documents: CV, research statement, references, list of major publications.
Contact: david.picard@enpc.fr, mathieu.aubry@enpc.fr