---------- JOB ANNOUNCEMENT ----------

POSITION TITLE

Assistant/Associate Professor on Deep Learning for Multimodal Data

TELECOM PARIS

Télécom Paris, a school of the IMT (Institut Mines-Télécom) and a founding member of the Institut Polytechnique de Paris is one of the top 5 French general engineering schools.

The mainspring of Télécom Paris is to train, imagine, and undertake to design digital models, technologies, and solutions for a society and economy that respect people and their environment. The school is committed to providing an environment conducive to the development of all students and research professors, and is voluntarily and sustainably committed to an ambitious plan for social and ecological transition. It is working to increase the number of female research professors and to reduce the disparities between men and women.

An inclusive campus on a "human scale" but with a strong international component, Télécom Paris is recognized for its proximity to companies. This public school guarantees excellent employability in all sectors and is the leading engineering school for the entire digital vertical (from hardware layers to uses).

With its excellent teaching and innovative pedagogy, Télécom Paris is at the heart of a unique innovation ecosystem, based on interaction and the importance of project mode in its training on the one hand, and its interdisciplinary research on the other. Its teacher-researchers are affiliated with two research laboratories: on the one hand, the LTCI laboratory, which is presented by the HCERES as a flagship unit in the field of digital sciences with remarkable international influence; and on the other hand, the i3 laboratory, Institut interdisciplinaire de l'Innovation (I3 - UMR 9217 of the CNRS), which pursues a multidisciplinary research program focused on innovation in the framework of a collaboration with the École Polytechnique and Mines ParisTech.

Télécom Paris is positioned as an open-air laboratory for all the major technological and societal challenges: artificial intelligence, quantum computing, IoT, cybersecurity, large-scale digital equipment (Cloud), 5G/6G, and Green IT.

Based in Palaiseau, at the heart of the Institut Polytechnique campus alongside the École Polytechnique, ENSTA, Télécom Sud Paris, and ENSAE, Télécom Paris also has an incubator based in Paris at the heart of the French start-up ecosystem.

SCIENTIFIC CONTEXT

The position will be located at Telecom Paris, a CS/EE school of Institut Polytechnique de Paris. Telecom Paris is one of the best French schools for digital sciences and technologies. More precisely, the recruited assistant or associate professor will join the Multimedia Team, within the Image, Data, Signal Department (IDS), and the LTCI laboratory. Note that the definitive job title (assistant or associate professor) will depend on the candidate's experience.

The Multimedia team has a long activity in the domain of video and image coding and transmission. More recently, video analysis and deep learning activities have become more and more relevant for the team. The team has the target to expand its activity in this area, and several new and exciting research projects have just been launched, such as research programs in Deep Learning compression, Graph Neural Network applications to Computer Vision, learning-based multimedia content compression, and generative models. In this context, and to support the increasing activity of the team, a position in Deep learning for Multimodal Data has been opened.

Applicants are expected to provide an outstanding academic research record and will be encouraged to advise PhD theses and supervise engineers and post-docs while being actively involved in funded projects and the activities of the Multimedia team. The teaching activities will take place in the engineer and master tracks at Telecom Paris and can be given in English.

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Research

The applicant must have a PhD degree in one of the areas of computer vision, machine learning, or signal processing, with solid skills in mathematics. International experience is welcome. The applicant should also have a strong publication record in top journals and conferences in the field. The new assistant/associate professor will be invited to conduct research projects in the fields of deep learning for multimodal data, with emphasis on multi-capture systems, natural language processing/computer vision models, and video processing, taking benefit of the different research departments of Telecom Paris and, more generally, of Institut Polytechnique de Paris.

Teaching

The applicant must be able to contribute to the teaching activities of Telecom Paris in general and of the Multimedia team in particular. This includes giving lectures and conceiving new courses in the following areas: Multimodal Deep Learning, Computer Vision, Machine learning, and Deep Learning. The applicant will have opportunities to teach in joint graduate programs within the Institut Polytechnique de Paris or with other Parisian universities.

PREFERRED SCIENTIFIC EXPERTISE

Required Skills

The applicant's scientific expertise is expected to be in one or more of these fields:

- Deep Learning for Multimodal Data
- Computer vision
- Deep learning for image or video analysis or processing

Besides outstanding research and teaching skills, applicants should also:

- Be a team player, have good social skills, and be able to develop international academic and industrial partnerships;
- Be able to acquire grants and funding at national and European levels;
- Be autonomous, self-motivated, and able to build and conduct research projects on their own;
- Have experience in university (or equivalent) teaching activities;
- Be fluent in oral and written English (French is not required).

Additional skills (not mandatory)

- Probabilistic models, statistical image/video processing;
- Generative models (variational autoencoder, adversarial networks, flow)
- Motion and tracking
- Representation learning
- 3D vision
- Domain adaptation
- Few-shot, weakly-supervised, semi-supervised, or continual learning

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JOB DESCRIPTION

MAIN RESPONSIBILITIES AND DUTIES

1. **Applicants should participate in the design and implementation of courses in their scientific field.**
2. **They should conduct research.**
3. **They should participate in the development of partnerships, collaborations, and contractual agreements in their scientific field.**

POSITION RESPONSIBILITIES

Teaching:

In collaboration with the other faculty members of the department:

- Provide courses consistent with areas of knowledge, skills-set, and departmental needs;
- Teach labs and tutorials for undergraduate and graduate students;
- Serve on juries for prospective students who are applying for engineering courses, specialized masters, etc.;
- Contribute to the analysis of training needs;
- Design and organize teaching activities for undergraduate and graduate students;
- Design and implement project-based teaching;
- Supervise student projects;
- Develop courses and teaching tools in the above-mentioned field.

Research:

- Engage in research activities in the scientific field concerned;
- Write proposals and participate in projects with partners from the Institut Polytechnique de Paris, the Institut Mines-Télécom, or other institutions from the academic and/or corporate world, in particular in the framework of fundamental, national, or European projects;
- Carry out industrial research contracts;
- Explore and develop partnerships within the industry and establish contractual agreements.

Coordination:

- Participate in and contribute to the scientific activities of the Group (seminars, presentations, juries, etc.).

Fostering the recognition of Telecom Paris and the Institut Polytechnique de Paris:

- Disseminate research findings via scholarly writing and publication;
- Lead presentations and seminars;
- Take an active role in scholarly and professional organizations;
- Maintain close relations with academic institutions, research centers, and companies.

Other responsibilities:

- Participate in the scientific, pedagogical, and management activities of the department and/or institution;
- Where appropriate, direct and manage the staff placed under their responsibility or supervision;

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- Report on the activities and results of the tasks for which they are responsible.

SKILLS

Required skills, experience, and knowledge:

- In-depth theoretical or applied knowledge in their field of expertise;
- An excellent command of spoken and written English.
- If the candidate does not speak French, from the moment they are hired they must commit to reaching a professional proficiency of French as quickly as possible while under contract.

Preferred skills, experience, and knowledge:

- Post-doctoral or international experience in an academic or industrial laboratory is appreciated;
- Teaching experience.

Other abilities and skills:

- The ability to be an active team member in a diverse faculty, staff, and student environment;
- Strong teaching, pedagogical, and mentoring capabilities;
- Superb written and interpersonal communication skills.

REQUIRED QUALIFICATIONS

Candidates with one or more of the following required qualifications may apply:

- Doctorate or equivalent;
- Civil servant recruited through the École Polytechnique or ENA or former student of the École Normale Supérieure and ≥ 3 years of professional experience;
- Holds a post-graduate degree from an engineering, business, or management school and has ≥ 5 years of professional experience;
- Holds a post-graduate degree and has ≥ 5 years of professional experience;
- Is a high-level business executive with ≥ 8 years of professional experience.

DESIGNATION AND CAREER DEVELOPMENT

The person recruited will obtain the title of Assistant or Associate Professor. He/she will be encouraged to obtain, as soon as possible, his/her HDR (habilitation to direct research). The HDR is one of the prerequisites to apply for promotion to Professor.

APPLICATION INSTRUCTIONS

To apply, send the following to URL RECRUITEE:

- a detailed curriculum vitae (max 2 pages),
- a letter of motivation,
- a report on activities (table of activities) in research (supervision, problems, etc.), teaching (title, volume, etc.) and collective tasks (max 4 pages)
- a description of teaching (summary of activities, a brief project for integration into university teaching and continuing education) (max 4 pages)
- a research description (summary and results of activities, a brief plan for integration into research) (max 4 pages)
- a copy of the 3 best publications, list of publications

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- the names and addresses of two qualified personalities who can give an informed opinion on the application.

Contact for further information: Enzo Tartaglione (enzo.tartaglione@telecom-paris.fr)

SELECTION

The selection process consists of 4 steps:

- Elimination of applications that do not have the required qualifications
- Exchange with the host team to establish a list of shortlisted candidates
- Preliminary interview with Human Resources
- Hearing by the recruitment committee and ranking of the selected candidates
- Final interview with the Director of Télécom Paris

ADDITIONAL INFORMATION

Date posted: July 8th, 2024

Contract type: **CDI (permanent contract)**

Job location: Télécom Paris, 19 Place Marguerite Perey, Palaiseau 91120, France

Department/Unit: IDS Department
Superior/Supervisor: Head Department of IDS

Category / job title: **II – C**
Categories / titles agents can apply for: II – C

How to apply

Send a CV and a cover letter to:
https://institutminestelecom.recruitee.com/o/assistantassociate-professor-on-deep-learning-for-multimodal-data

Application deadline: October 12th, 2024

Telecom Paris is an equal-opportunity employer.
All our positions are open to individuals with disabilities.