Assistant/Associate Professor in Deep Learning for Computer Vision

Job location: Télécom Paris, 19 Place Marguerite Perey, Palaiseau 91120, France
Department/Unit: Department *Image, Data, Signal* Department (IDS) in Multimedia Team

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 activity 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 for image and video generation, domain adaptation for computer vision tasks, and learning-based photographic quality evaluation. In this context, and to support the increasing activity of the team, a position in Deep learning for computer vision has been opened.

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

Research

The applicant must have a PhD degree in one of the areas of computer vision, machine learning, 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 of the field.

The new assistant/associate professor will be invited to conduct research projects in the fields of computer vision and deep learning, taking benefit of the different research departments of Telecom Paris and, more generally, of Institut Polytechnique de Paris. The position includes a substantial recruitment package including salary, research budget, PhD grants. This package will offer the possibility to start a small research group of several PhD students .

Teaching

The applicant must be able to contribute to teaching activities of Telecom-ParisTech in general and of the Multimedia team in particular. This includes giving classes and conceiving new classes in the following areas: Computer Vision, Machine learning, Deep Learning. Nevertheless, the teaching load will remain limited to facilitate the development of the research activities. Note that it is not required for the candidate to teach in French. The applicant will have opportunities to teach in joint graduate programs within 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 of more of these fields:
• 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, be able to develop international academic and industrial partnerships.
• Be able to acquire grants and funding at national and european level.
• Be autonomous, self-motivated, able to build and conduct research projects on their own
• Have an 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

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 his or her responsibility or supervision;
- Report on the activities and results of the tasks for which he or she is responsible.

SKILLS

Required skills, experience, and knowledge:
– In-depth theoretical or applied knowledge in his or her field of expertise;
– An excellent command of spoken and written English.
– If the candidate is does not speak French, at the moment of hire he or she must commit to obtaining 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 QUALIFICIATIONS
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.

ACADEMIC RANK and CARRIER EVOLUTION
Depending on its experience, the successful candidate will obtain the Assistant Professor or Associate Professor title. The latter is given to the candidates having the French habilitation diploma, HDR (Habilitation à Diriger des Recherches) or an equivalent international academic experience. To obtain the Full Professor title, one of the conditions is to take the HDR.

APPLICATION INSTRUCTIONS
Applicants should submit a single PDF file that includes:
– cover letter,
– curriculum vitae,
– statements of research and teaching interests (4pages)
– three publications
– contact information for two references to: marco.cagnazzo@telecom-paris.fr

To submit your application : https://institutminestelecom.recruitee.com/l/en/o/assistantassociate-professor-in-deep-learning-for-computer-vision-at-hi-paris

For full consideration, applications should be received no later than **March 25th, 2020**

Contact: Marco Cagnazzo, marco.cagnazzo@telecom-paris.fr

SELECTION

The selection is made in four steps :
– Removal of the applications that do not satisfy the required qualifications
– Interview by the host team and selection of a first short-list
– Interview by the Hiring Committee, selection and ranking of the final short-list
– Interview by the dean of Telecom Paris