Faculty position at Telecom ParisTech
« Deep learning for image »

Télécom ParisTech, a CS/EE school, is hiring an associate professor in the domain of machine learning for image processing, modeling and understanding in the IMAGES team (Image, Modeling, Analysis, Geometry and Synthesis) of IDS department (Image, Data, Signal) in the Information Processing and Communication Laboratory (LTCI).

Research
The team aims at developing its research activities in machine learning, in particular deep convolutional networks (CNN) for image analysis, processing and understanding. Recently, these approaches have led to unprecedented advances for image restoration, classification, pattern recognition or edition, and become increasingly important with the spreading of image sensors in various domains (entertainment, health, earth observation…). The team aims at developing or reinforcing the following topics: reduction of the sensitivity of the networks to the learning domain through transfert learning; introduction of prior knowledge in neural networks; understanding of CNN (understanding of underlying models, “post-hoc” explanations of the given predictions…).

The applicant is expected to have competences and skills in machine learning, specially deep learning approaches for image processing, or artificial intelligence, and a strong background in applied mathematics or computing sciences. Concerning the thematic applications, the applicant will contribute to one of the topics developed by the team: computational photography, remote sensing imaging, or bio-medical imaging. The applicant will be encouraged to develop collaborations with team members, academic teams and industrial partners.

Teaching
The applicant will participate in courses in machine learning, image and signal processing and computer vision either in the first year (basics in signal and image processing), master level (basic and advanced courses in machine learning and image processing and computer vision). The candidate will also participate in student project supervision and teach in joint Master degrees with partner universities.

Skills
The candidate should hold a PhD degree in a domain related to machine learning for image processing, specially deep learning approaches, with a strong background in applied mathematics or computer science. The following skills are required: supervised learning, deep learning, image processing or computer vision. Skills in one of the following applicative domains are recommended:
computational photography, remote sensing imaging, bio-medical imaging.

A post-doctorate or an international experience will be appreciated but are not mandatory. An experience in teaching is recommended.

**Other skills**
Relational skills, team player.
Pedagogical skills.
Capacity of developing academic and industrial collaborations.
Languages: English; French, or willing to learn French on the long term.

**Context**
Telecom ParisTech is one of the best French schools for digital sciences, technologies and usages with excellent students and research teams. The IMAGES team covers the whole image processing chain with skills ranging from physical modeling of the sensors to spatial reasoning and artificial intelligence including different levels of processing (restoration, feature extraction, pattern recognition, 3D…). It leads numerous academic and industrial collaborations. The position will be located in Paris until summer 2019 and then in Saclay, and is a permanent position.

**Application**
The candidate must send to the human resources service (recrutement@telecom-paristech.fr) and to the contact person of the team (florence.tupin@telecom-paristech.fr) the following documents:
- A detailed curriculum vitae
- A letter of motivation
- A document summarizing her/his experience in research and teaching
- The reports on the PhD document and the PhD defense
- A research and teaching project (maximum length: 3 pages)
- Her/his three major publications
- The names, addresses and electronic addresses of two highly qualified faculty members able to make recommendation on the applicant (one of them should not have published with the candidate)
- If relevant, a link to a web page with additional information (demonstrations, course material, complete publications…)

**Contacts**
Florence Tupin (head of IMAGES team) florence.tupin@telecom-paristech.fr
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**Important dates:**
Interview of selected candidates: 13th of April at Télécom ParisTech
Position start: September 2018 (at the latest)

**Useful links**
IMAGES team https://perso.telecom-paristech.fr/bloch/tii/
LTCI laboratory : http://ltci.telecom-paristech.fr