

JOB SPECIFICATION FOR CALL FOR APPLICATIONS

Date of update: February, 2020

Job title: Associate Professor in artificial intelligence applied to multimedia content

Localisation : EVRY (with regular trips to Palaiseau) - FRANCE

Entity / Service: Télécom SudParis / ARTEMIS Department

Position of supervisor: Director of the ARTEMIS (*Advanced Research and Techniques for Multimedia Imaging Systems*) Department of Télécom SudParis

Categories or professions of agents who can apply: II-C

Category and job occupation in IMT: II -C

Category in the public service: A

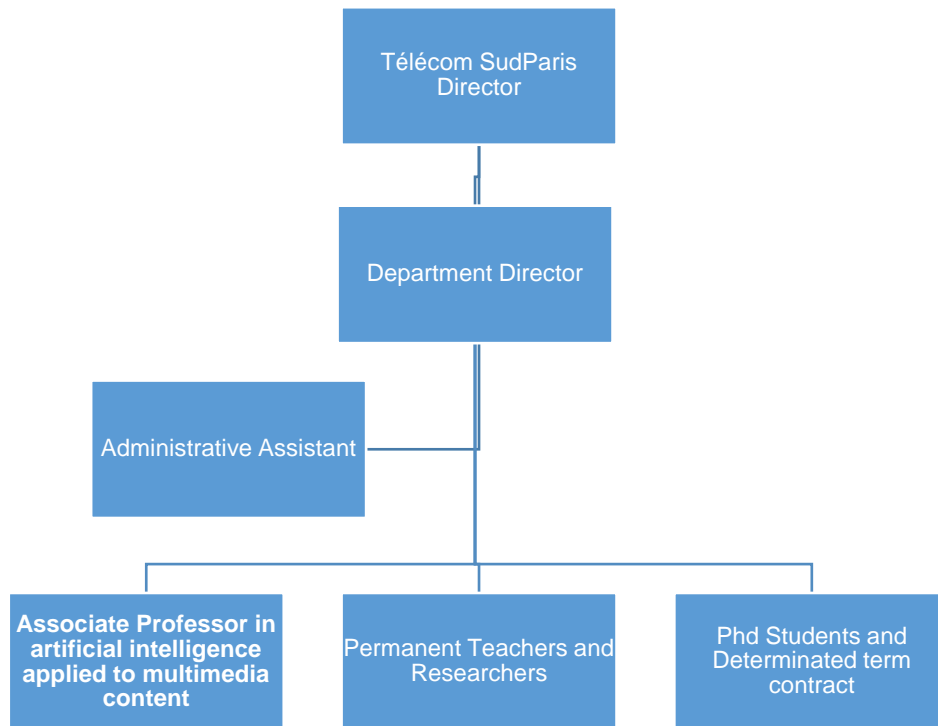
Permanent contract

ABOUT TELECOM SUDPARIS

Telecom SudParis is a public graduate school for engineering, which has been recognized on the highest level in the domain of digital technology. The quality of its courses is founded on the scientific excellence of its faculty and on teaching techniques that emphasize project management, innovation and intercultural understanding. Telecom SudParis is part of the Institut Mines-Telecom, the number one group of engineering schools in France, under the supervision of the Minister for Industry. Telecom SudParis with Ecole Polytechnique, ENSTA Paris, ENSAE Paris and Telecom Paris are co-founders of the Institut Polytechnique de Paris, an institute of Science and Technology with an international vocation.

Its assets include: a personalized course, varied opportunities, the no.3 incubator in France, an ICT research center, an international campus shared with Institut Mines-Telecom Business School and over 60 student societies and clubs.

THE POSITION IN THE ORGANIZATIONAL STRUCTURE:



MISSIONS :

The targeted teaching and research domain concerns the field of artificial intelligence, applied to the analysis and processing of massive, distributed and heterogeneous multimedia data for various objectives, including dynamic scene reconstruction/interpretation, data visualization and interaction, machine learning-based knowledge extraction, content protection... The methodological contributions expected notably concern the deep learning techniques and potentially cover the whole chain of the 2D/3D multimedia processing chain, with analysis, semantic inference and enrichment. Transversal contributions are expected to support the various application domains (multimedia, medical imaging, virtual and augmented reality) already considered within the ARTEMIS department.

The missions at Télécom SudParis will concern the three fundamental aspects *teaching – research – valorization*. The associate professor to be recruited will:

- Conceive and implement dedicated teaching modules in artificial intelligence (notably applied to multimedia) within the framework of the various teaching programs proposed by Télécom SudParis as well as contributions to the Master programs of Institut Polytechnique de Paris,
- Develop research and innovation activities within the field of artificial intelligence with supervision of young researchers (internships, Ph.D. students, post-doctoral fellows, R&D engineers).
- Develop of contractual relations, partnerships and collaborations with French, European or international academic/industrial partners; contributions to the international ISO/MPEG standardization are also expected.
- Animate, promote and contribute to the influence of the department's research, development, consultancy and expertise activities,
- Contribute to the dissemination of research and reinforce the influence of the School in the field of artificial intelligence within the different ecosystems in which it is involved (Institut Polytechnique de Paris, Institut Mines-Télécom, Evry Science et Innovation).

These activities will be carried out under the framework of the flagship thematic *Data analytics et Intelligence artificielle* of Institut Mines-Télécom and will be attached to the *Informatique, Data, IA* disciplinary community of Institut Polytechnique de Paris.

ACTIVITIES :

1. Teaching

1.1 Conception and diffusion of teaching activities

- Participates in the design and implementation of courses and other teaching activities in the field of artificial intelligence, in core curriculum, in 2nd year opening modules (new module IMA4504 - Computer vision and deep learning), in 3rd year VAP (HTI, JIN) or in the M2 Masters of IP Paris (M2 VAR course and Multimedia Networking)
- Coordinates the creation of a MOOC on the theoretical and applied aspects of deep learning
- Participates, according to the needs of the School, in the mathematics and computer science modules of Télécom SudParis (core curriculum)
- Participates in the design and correction of knowledge control subjects, rereads and corrects reports or briefs
- Designs and supervises student projects (1st year IT projects, Cassiopée, VAP HTI end of study projects), monitors and advises students on internships in companies
- Participates in the juries for the defense of projects and internships, participates in the admission juries
- Contributes to training in both theoretical and experimental lessons in his field

1.2 Coordination

- Conceives and produces course materials and educational tools for the subjects taught, contributes to the development of the curriculum, proposes modifications or creations of teaching modules
- Offers and provides continuing education courses in the corresponding field, contributing to the renewal and enrichment of the offer
- Coordinates teaching activities (modules, continuing education courses, options) of initial and continuing training

2. Research and development

2.1 Methodological research

- Conducts research activities in the field of artificial intelligence applied to multimedia content. The core of its developments will concern the development of learning methods by deep neural networks to respond, in a transverse manner, to issues related to various methodological fields (compression, indexing, security, 3D reconstruction / animation, detection / monitoring and object recognition...)
- Participates in the supervision of PhD students, 2nd and 3rd year engineer students and postgraduate trainees
- Follows the scientific policy of the Institut Mines-Telecom, Institut Polytechnique de Paris and Télécom SudParis in the field of its competences and participates in defining the scientific orientations of the School
- Offers research activities in emerging disciplines

2.2 Valorisation of research

- Participates in research or expertise actions within the framework of existing partnerships (industrial, academic, institutional) and contributes to the setting up of new projects.
- Negotiates, develops and manages contracts, programs and research projects.
- Participates in the promotion of the artificial intelligence platform available within the ARTEMIS department
- Provides scientific support to the innovative entrepreneurship dynamic of IMT Starter
- Participate in the creation and development of technological innovation platforms within ETOILE

2.3 Dissemination

- Contributes to the establishment and strengthening of scientific collaborations with the world of industry and research, in France and abroad.
- Promotes the research activities at national and international level with publications in recognized journals and conferences

TRAINING AND SKILLS:

Level of training and / or experience required:

- French Ph.D. diploma or equivalent
- Significant experience in teaching and research in an academic or industrial laboratory
- Very good, high quality publication productivity, in line with IP Paris recruitment policy and allowing immediate integration into the SAMOVAR laboratory of Telecom SudParis

Essential skills, knowledge and experience:

- Teaching experience in higher education
- Good knowledge of methodologies related to visual content processing (image, video, 3D graphics), computer vision
- In-depth scientific knowledge of deep (deep learning) and non-deep (machine learning) machine learning techniques, as well as associated software development tools and environments (tensorflow / keras frameworks, pytorch, specialized Python libraries)

Advantageous skills, knowledge and experience:

- Experience in the development of industrial applications.
- Knowledge of scientific issues and laboratories of the discipline at national and international level
- Experience in the field of collaborative research and setting up of collaborative projects
- Fluency in French and English

Abilities and skills:

- Ability to work in a team within national or international research contracts, in collaboration with academic and industrial partners
- Ability to negotiate and coordinate national, European and industrial contracts
- Relational and pedagogical qualities
- Ability to lead projects
- Ability to synthesize and write

- Sense of animation and organization
- Sense of teamwork
- Responsiveness, initiative and thoroughness

TO APPLY:

Please send before the April 24, 2020 :

- a motivation letter
- a resume
- a work notice about our past and future activities in teaching and research (the 2 types of activity must be described with the same care for rigor and precision)
- a list of the main publications
- the names and mails of two qualified personalities who can give an informed opinion on the application

- recrutements@imtbs-tsp.eu

Or

- Télécom SudParis - HRD - 9 rue Charles Fourier - 91000 EVRY - FRANCE

Contact person: Pr. Titus ZAHARIA – titus.zaharia@telecom-sudparis.eu

Web Site: <https://www.telecom-sudparis.eu/>

Information of the candidate on the processing of personal data: <https://bit.ly/2QeOZhl>