

## Assistant Professor in Artificial Intelligence and Signal Processing

### CDI de droit public

**Job Description:** Assistant Professor in Artificial Intelligence and Signal Processing at CentraleSupélec, on the Rennes campus, in the IETR laboratory (UMR CNRS 6164) (full-time, permanent, faculty position).

#### About CentraleSupélec

CentraleSupélec is a leading engineering school within the Paris-Saclay University. It is a prominent public institution (EPSCP in French) that operates under the jurisdiction of the French Ministers for higher education and industry. CentraleSupélec mainly focuses on training highly skilled scientific general engineers, conducting research in engineering and systems sciences, and providing executive education.

The **Rennes campus** of CentraleSupélec provides courses for the three-year general CentraleSupélec engineering program, both in the FISA (Training of Engineers under Apprenticeship Status) and FISE (Training of Engineers under Student Status) tracks. , Starting from the academic year 2025, the Rennes campus will offer four specialized engineering programs .

Structured into six departments and 13 thematic research teams, the **IETR Laboratory** tackles various scientific challenges primarily associated with the digital transformation of society. Additionally, it addresses transitions concerning the environment, ecology, energy and health. The IETR operates across Brittany (Rennes, Saint-Brieuc, Lannion, Coëtquidan) and Pays de la Loire (Nantes, Angers, La Roche sur Yon). It boasts over 350 collaborators from the laboratory's five establishments and overseeing organisations including CNRS (INSIS and INS2I), CentraleSupélec, INSA Rennes, Nantes University and the University of Rennes.

#### Teaching Responsibilities

The teaching responsibilities for this position amount to 192 hours. The candidate will teach courses in statistical learning, artificial intelligence, and their methodological foundations such as statistics and optimisation. In addition to this, they will be responsible for teaching techniques for processing large masses of data, specifically those aimed at processing temporal data (signal processing). These courses are primarily intended for students enrolled in the new CentraleSupélec engineering program that specializes in "Digital Systems", which will begin in the academic year 2025. The candidate will supervise

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projects and monitor internships. The Assistant Professor will be required to provide teaching in English and will deliver lectures for the apprenticeship track (FISA) in signal processing and for the “Digital and Living” concentration in the third year of the general engineering program.

### Research Responsibilities

Based on their profile, the teacher-researcher will be assigned to either the SIGNAL team or the AIMAC team of IETR. Research activities will focus on statistical learning (machine learning), deep learning, optimisation and/or signal processing. These research themes could be developed around applications related to the activities of the SIGNAL or AIMAC teams, which include (but are not limited to) the transmission and processing of information or the processing of audio and video signals for healthcare purposes. The research activities will include supervising Master 2 level interns, doctoral students and post-doctoral students, as well as participating in research projects, including collaborative projects at national and international levels, bilateral, etc.

### Qualifications and Experience

The candidate must meet the following requirements:

- Hold a Ph.D and possess strong expertise in statistical learning and signal processing.
- Have published articles in international journals as an author or co-author. Specific publication requirements will vary based on the candidate’s curriculum vitae and years of experience.
- Demonstrate a passion for teaching, research (academic and contractual in relation to industry) and teamwork.
- Be proficient in English.
- Show an interest in the supervision of research work related to the themes of the IETR SIGNAL or AIMAC teams.

### Application Process

Applications must be submitted by email to the following email [address\\_drh.pole-enseignant@centralesupelec.fr](mailto:address_drh.pole-enseignant@centralesupelec.fr), before May 21, 2024 with reference **MCF-IETR-IA-Rennes-2405**

The electronic application must include the following PDF files:

- A cover letter
- A detailed CV (teaching experience, research, mobility, publications, etc.)
- A research and teaching project (five to ten pages) aligned with the objectives and focus of CentraleSupélec
- A copy of the identity card or passport
- A copy of the doctoral degree
- Thesis defence report

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- Letters of recommendation (optional)
- And any documents that attest to previous experience

### Interview Process

Shortlisted candidates will be invited to an interview which consists of three stages, allowing us to assess your suitability for the position:

1. Candidates will present their academic background and present their teaching and research project.
2. Each candidate will demonstrate their teaching skills by presenting a lesson in English, addressing a common problem specified in the audition invitation.
3. Candidates will then respond to questions from the committee members.

The interview invitations will clearly state the duration for each of these presentations.

### Scientific contacts

Clément Elvira, member of the SIGNAL team: [clement.elvira@centralesupelec.fr](mailto:clement.elvira@centralesupelec.fr)

Simon Leglaive, member of the AIMAC team: [simon.leglaive@centralesupelec.fr](mailto:simon.leglaive@centralesupelec.fr)

Yves Louët, director of the Rennes campus of CentraleSupélec: [yves.louet@centralesupelec.fr](mailto:yves.louet@centralesupelec.fr) .

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