Offer #2019-02131

Post-Doctoral Research Visit F/M Automatic Annotation and Indexing of Pedagogical Resources

Contract type : Fixed-term contract

Level of qualifications required : PhD or equivalent

Other valued qualifications : PhD

Fonction : Post-Doctoral Research Visit

Level of experience : Up to 3 years

About the research centre or Inria department

The Inria Sophia Antipolis - Méditerranée center counts 34 research teams as well as 8 support departments. The center's staff (about 500 people including 320 Inria employees) is made up of scientists of different nationalities (250 foreigners of 50 nationalities), engineers, technicians and administrative staff. 1/3 of the staff are civil servants, the others are contractual agents. The majority of the center's research teams are located in Sophia Antipolis and Nice in the Alpes-Maritimes. Four teams are based in Montpellier and two teams are hosted in Bologna in Italy and Athens. The Center is a founding member of Université Côte d'Azur and partner of the I-site MUSE supported by the University of Montpellier.

Context

We are looking for a Postdoctoral researcher with a background in Semantic Web, Knowledge Representation and Reasoning, Recommender Systems to join the Inria Wimmics team to work **within the CURIOSITY collaborative project with TeachOnMars**.

The TeachOnMars mobile training platform hosts a large number of pedagogical resources (in the form of multimedia documents) that belong to different fields and levels of specialisation. At the same time, the platform has many learners with specific learning objectives. Providing the user with the right educational resource at the right time during his or her training is a key element in helping them achieve their learning objectives.

In this context, the objective of the CURIOSITY research project in Artificial Intelligence is to design an approach that automatically creates a set of relevant educational resources, or training paths, that correspond to the learner's needs and learning objectives. More specifically, the CURIOSITY project is in the areas of knowledge representation and reasoning and automatic learning and aims to answer the following research questions:

- How to model and build a training path according to a learner's specific needs?
- How to determine which resources are the most relevant to include in a training course?

The first step is the design and implementation of a process for automatically indexing and semantically annotating pedagogical resources to build up a knowledge graph. Reasoning on this knowledge graph will make it possible to intelligently organize, classify and select the resources available for a training course.

Assignment

The recruited person will participate to the management and monitoring of the CURIOSITY project for the partner Inria and will design and develop innovative methods and algorithms for annotating and classifying textual educational resources.

Main activities

The recruited person will participate to the management and follow-up of the CURIOSITY project for the partner Inria.

He or she will work on building a knowledge graph for the TeachOnMars platform by answering the following research questions:

- What information can be automatically extracted from the educational resources on the platform? How to carry out this extraction process?
- How to formally model and store the information extracted from these resources into a knowledge graph in order to reason on it?
- What repositories of skills and knowledge and what domain repositories should be adopted to annotate learning resources? How to make this association?
- How to enrich the information contained in educational resources with knowledge from the Web of data?

Skills

Important skills are:

- Project management, self-organization, professionnalism
- Knowledge of Semantic Web models and techniques, and Graph based Knowledge Representation and Reasoning
- Knowledge of state of the art approaches and algorithms for knowledge extraction from texts
- Knowledge of state of the art Machine Learning algorithms
- Interest for the domain of eEducation
- Self-motivated and willing to work in an international research team
- Self-motivated and willing to work within a collaborative project with a company
- Fluent English and/or French

Benefits package

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking (after 6 months of employment) and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

Remuneration

Gross Salary: 2653 € per month

General Information

- **Theme/Domain :** Data and Knowledge Representation and Processing
  Information system (BAP E)
- **Town/city :** Sophia Antipolis
- **Inria Center :** Centre Inria d'Université Côte d'Azur
- **Starting date :** 2020-01-06
- **Duration of contract :** 1 year, 6 months
- **Deadline to apply :** 2020-01-25

Contacts

- **Inria Team :** WIMMICS
- **Recruiter :**
  Faron Catherine / Catherine.Faron@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

The keys to success

Strong knowledge of Semantic Web models and technics and of state of the art approaches for knowledge extraction from texts and classification algorithms.

Warning : you must enter your e-mail address in order to save your application to Inria. Applications

must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Defence Security :
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST).Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :
As part of its diversity policy, all Inria positions are accessible to people with disabilities.