



Grenoble INP - UGA is a member of international engineering and management education and research networks. It is widely recognized in national and international rankings.



8 schools + **39** laboratories

8300 students

1 300 teaching, research, administrative and technical staff

Grenoble INP - UGA is a renowned public institution of higher education and research, and a major player in the Grenoble ecosystem. It is the engineering and management institute of Grenoble Alpes University, and plays a leading role in the scientific and industrial community.

Researcher in reinforcement learning applied to energy

Position reference	2024-RESEARCHAPPLEENERGY-GSCOP
Research field	Digital Electronics (Embedded systems design, digital architecture design in disruptive technologies)
Host laboratory	G-SCOP (UMR 5272 Grenoble-INP, UGA et CNRS)
Required profile	First stage researcher (R1)
Location	Grenoble, France
Hiring date / contract term	01/02/2024 (14 months)
Contacts	stephane.ploix@grenoble-inp.fr siao.phouratsamay@grenoble-inp.fr

Grenoble INP - UGA is a leading public institution accredited with the French label "Initiative d'excellence". It offers innovative engineering and management programs, with an increasing internationalization of its course offers. The courses are grounded in sound scientific knowledge and linked to digital, industrial, organizational, environmental and energy transitions. The Engineering and Management Institute of Grenoble Alpes brings together more than 1300 staff members (teacher-researchers, lecturers, administrative and technical staff) and 8300 students, located on 8 sites (Grenoble INP - Ense3, Grenoble INP - Ensimag, Grenoble INP - Esisar, Grenoble INP - Génie industriel GI, Grenoble INP - Pagora, Grenoble INP - Phelma, Polytech Grenoble, Grenoble IAE and the INP Prepa). Grenoble INP is also a highly-ranked institution of higher education and research, leading the way in the fields of engineering and management on an international scale. It is a member of a large number of international academic and research networks. It is part of the European University UNITE!.

As part of Grenoble Alpes University, Grenoble INP has associated guardianship of 39 national and international research laboratories and of technological platforms. The research conducted there benefits both its socio-economic partners and its students. Grenoble INP is at the heart of the following scientific fields: physics, energy, mechanics and materials; digital; micronanoelectronics, embedded systems; industry of the future, production systems, environment; management and business sciences.

Grenoble INP - UGA is an equal opportunity employer committed to sustainability. Grenoble INP-UGA celebrates diversity and equity and is committed to creating an inclusive environment for all employees. All qualified applications will be considered without discrimination of any kind.

Research

The G-SCOP laboratory (UMR 5272) is a multi-disciplinary research laboratory dedicated to the design, optimization and management of products and production systems. The G-SCOP laboratory is committed to developing research that meets the societal challenges posed by the four transitions: energy, environment, digital and industrial. The transformation of the industrial world linked to the concepts of the industry of the future (personalization, connectivity, agility, sustainability...) requires the evolution of production system design and management methods. In this context, production systems designed for mass production are moving towards agile and sometimes circular production, adapted to demand and available resources.

Position description:

Together with industrial partners, the G-SCOP laboratory has won a project aimed at optimizing the management of a ski resort, with various case studies. A simulator representing the randomized behavior of skiers endowed with different forms of intelligence has already been developed and will serve as a basis for validating resort management algorithms. Following a bibliographical search, the task in hand is to enrich the skier behavior models and design an energy management strategy based on reinforcement learning. The proposed solution will be validated on a simulator. Sensitivity analyses will be carried out to test the proposed algorithm.

Specific requirements

Skills:

Ability to implement solutions in Python code is imperative.

Experience in reinforcement learning is desirable, as is expertise in energy systems management.

Proficiency in English and French is required. In addition, international experience will be a decisive asset.

Specifics of the position:

The research may be led on 2 locations: Grenoble and St Martin-d'Hères.

Position assigned to a restricted area: ~~YES~~/NO

(Device for the protection of the scientific and technical potential of the nation, conditioning the appointment of the researcher to the authorization of the Defense Security Officer).

How to apply

Applications must be sent to stephane.ploix@grenoble-inp.fr

Application deadline : February 28th 2024 (28/02/2024)