



<b>Updated date:</b>	21/11/2023
<b>Job title:</b>	Post-Doctoral Fellow in Computer Science - Avatar representation in Augmented Reality
<b>Project name:</b>	ANR ASTRAL
<b>Contract (+ duration if fixed-term):</b>	18-month fixed-term contract
<b>Anticipated start date:</b>	April 2024
<b>Location:</b>	655 Av. du Technopôle, 29280 Plouzané
<b>Direction/Service/UO :</b>	INFO / UJ0030
<b>Position of immediate superior:</b>	Head of department
<b>Job category and function in the ITM management framework - Job code:</b>	II P – E00070
<b>Civil service category:</b>	A
<b>For further information, please contact</b>	
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<b>To apply:</b>	
	<a href="https://institutminestelecom.recruitee.com//en/o/post-doctorat-avatars-en-realite-augmentee-cdd-18-mois">https://institutminestelecom.recruitee.com//en/o/post-doctorat-avatars-en-realite-augmentee-cdd-18-mois</a>
<b>Application deadline:</b>	14th February 2024

## 1- WORK ENVIRONMENT

This post-doctoral position (18-month fixed-term contract) is offered by IMT Atlantique, an elite technological university in France, renowned for its academic excellence and cutting-edge research in the field of information science, energy technologies, environment and health, which is ranked in the top 10 in France.

The INUIT team designs solutions for immersive technologies and evaluates their relevance to improve their naturality. It has a vast experience in augmented reality, computer vision and 3D interaction.

The postdoctoral fellow will be hired for the ANR ASTRAL project which general goal is to design and study avatars in augmented reality: while avatars are now classical representations of human beings in virtual environments with numerous applications domains, they are not that frequent in augmented reality. The objective of this postdoctorate fellowship is design avatar representation solutions in an augmented reality context, taking into account the specific constraints of AR (1<sup>st</sup> person-view, embedded sensors, self-occlusions...). The second phase will consist of participating into the perceptual evaluation of such avatars.

## 2- POSTDOCTORAL MISSIONS

As part of the global project, under the supervision of Etienne Peillard and Guillaume Moreau, the person recruited will have to:

1. **Contribute to solve the technical challenges of 'avatarization' (creating digital representations of human participants) in augmented reality**
2. **Contribute to the perceptive study of avatars in augmented reality in collaboration with the partners of ASTRAL project**
3. **Contribute to the deliverables of the ASTRAL project and to its dissemination**

## 3- POSTDOCTORAL ACTIVITIES

1. **Contribute to solve the technical challenges of 'avatarization' (creating digital representations of human participants) in augmented reality**
  - Carry out a state-of-the-art review on avatars rendering techniques focusing on their adaptability to an augmented reality context
  - Define a strategy and methods for data acquisition
  - Propose one or several methods for rendering avatars in AR depending on the context (Optical See Through or Video See Through HMDs for example)
2. **Contribue to the perceptive study of avatars in augmented reality in collaboration with the partners of ASTRAL project**
  - Contribute to define scenarii and protocols for the user perceptive studies in collaboration with the other partners of the project.
  - Participate to the implementation of those studies
3. **Contribute to the deliverables of the ASTRAL project and to its dissemination**
  - Write publications resulting from research carried out in with supervisors
  - Write project deliverables
  - Participation to scientific dissemination events and/or demonstrations

## 4- TRAINING and SKILLS:

### Minimum education and/or experience required:

- PhD obtained less than 3 years before the hiring date (01/02/2024) (Computer Science)

### Essential skills, knowledge and experience:

- Virtual reality or Augmented reality
- Advances programming (C++ or C#)

### Abilities and skills:

- Real time computer graphics
- Real time computer vision
- Machine learning techniques
- Fluent English

- Project management
- Collaborative development (version management, continuous integration, bugs handling)
- Teamwork skills
- Interpersonal skills (multiple interactions with project partners)
- Writing skills
- Creativity/sense of innovation
- Autonomy

#### **5- ADDITIONAL INFORMATION**

- Occasional travel to the project partners location (Rennes, Laval, Nantes) or to scientific conferences

#### **6- APPLICATION DOCUMENTS**

- CV
- Cover letter
- Copy of PhD's degree diploma
- Thesis report for both reviewers and defense report
- List of publications
- Letter(s) of recommendation