

## PostDoc

Ecole/Institution/Société:

**ISTITUTO ITALIANO DI TECNOLOGIA, Italy / Venice**

Discipline:

**Artificial Intelligence**

Type d'emploi::

**Full-time**

Date de publication:

**2022-03-13**

Personne à contacter:

**If you wish to apply for this position, please specify that you saw it on AKATECH.tech**

### **PostDoc on Machine Learning for Earth Observation data**

#### **WHO WE ARE**

At IIT we work enthusiastically to develop human-centered Science and Technology to tackle some of the most pressing societal challenges of our times and transfer these technologies to the production system and society. Our Genoa headquarter is strictly inter-connected with our 11 centres around Italy and two outer-stations based in the US for a truly interdisciplinary experience.

#### **YOUR TEAM**

You'd be working in a multicultural and multi-disciplinary group, where computational scientists (Machine Learning, Computer Vision, image processing, big data and high performance computing), material engineers, chemists, physicists, and archaeologists collaborate, each with their own expertise, to carry out common research.

The Center for Cultural Heritage Technology (CCHT) in Venice is coordinated by Arianna Traviglia, who has extensive experience in mediating the inclusion of technology within the study and management of cultural heritage and in cultural landscape management.

Research at CCHT focuses on promoting cutting-edge technologies and approaches for analysis and preservation of Cultural Heritage. This includes analyzing past landscapes using EO via ML-based approaches to detect yet-unknown, subsoil cultural heritage sites and other anthropogenic and environmental features.

#### **Within the team, your main responsibilities will be:**

- Development of object detection and semantic segmentation methods on multi and hyper-spectral data.
- Support to the creation of a multispectral dataset for automatic detection of sub-surface archaeological sites.
- The candidate will collaborate with CCHT researchers in a project developed in partnership with the European Space Agency (ESA): 'Cultural Landscapes Scanner (CLS): Earth Observation and automated detection of subsoil undiscovered cultural heritage sites via AI approaches'. Contract number 4000132058/20/NL/MH/ic.
- The position will require regular travel to partners' research facilities for periods from one to several weeks, depending on needs.

## **WHAT WOULD MAKE YOU SHINE**

- Ph.D. in computer science or a related field with specialization in Machine Learning (ML) or in Remote Sensing (RS);
- Documented experience in the development ML methods on EO data (for example, but not limited to, change and anomaly detection on EO time-series; semantic segmentation for land cover mapping, etc.);
- Experience with numeric and geospatial Python packages Numpy, Scikit-learn, Gdal or similar;
- A strong publication record with a relevant scientific track record on major ML and/or Remote Sensing conferences/journals (e.g. CVPR, NeurIPS, IGARSS, TPAMI, TGRS, MDPI RS, etc.)
- Good understanding of Geomatics concepts;
- Proficiency in English language (written and oral).

## **EXTRA AWESOME**

- Experience on unsupervised and semi-supervised Deep Neural Networks, such as autoencoders and Graph Neural Networks (GNNs);
- Experience in handling and manipulating big remote sensing datasets.

## **COMPENSATION & BENEFITS**

- Competitive salary package for international standards
- Wide range of staff discounts

## **WHAT'S IN FOR YOU?**

- An equal, inclusive and multicultural environment ready to welcome you with open arms. Discrimination is a big NO for us!
- We like contamination and encourage you to mingle and discover what other people are up to in our labs!
- If paperwork is not your piece of cake, we got you! There's a specialized team working to help you with that, especially during your relocation!
- If you are a startupper or a business-minded person, you will find some exceptionally gifted professionals ready to nurture and guide your attitude and aspirations.
- If you want your work to have a real impact, in IIT you will find an innovative and stimulating culture that drives our mission to contribute to the improvement and well-being of society!
- We stick to our values! Integrity, courage, societal responsibility and inclusivity are the values we believe in! They define us and our actions in our everyday life. They guide us to accomplish IIT mission!

## **Please submit your application using the online form and including**

- a detailed CV with a publications' list
- university transcripts
- cover letter (outlining motivation, experience and qualifications)
- contact details of 2 references.

We inform you that the information you provide will be used solely for the purposes of evaluating and selecting professional profiles in order to meet the requirements of Istituto Italiano di Tecnologia.

Your data will be processed by Istituto Italiano di Tecnologia, based in Genoa, Via Morego 30, acting as Data Controller, in compliance with the rules on protection of personal data, including those related to data security.

Please also note that, pursuant to articles 15 et. seq. of European Regulation no. 679/2016 (General Data Protection Regulation), you may exercise your rights at any time by contacting the Data Protection Officer (phone Tel: +39 010 28961 - **email:** [dpo@iit.it](mailto:dpo@iit.it) ).

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