Software Developer

**Employer Description**

Université Côte d'Azur is a large Public Institution of a Scientific, Cultural and Professional Nature whose fundamental missions are the Training of students and professionals, a Research of Excellence and Innovation at the service of all. Since January 1, 2020, this experimental public establishment aims to develop the 21st century model for French universities, based on new interactions between disciplines (pluridisciplinarity and transdisciplinarity), with a desire for collective dynamics articulating Training-Research-Innovation, as well as strong local, national and international partnerships with the public and private sectors.

Winner since 2016 of the Initiative of Excellence (IDEX) with "UCA Jedi", of the 3IA project (Interdisciplinary Institute for Artificial Intelligence) in 2019, and of a University Research School project (EUR), Université Côte d'Azur is engaged in a trajectory of transformation and excellence, which aims to give it the rank of a major research-intensive university that is both rooted in its territory and internationally oriented. Université Côte d'Azur directly employs more than 3,000 staff and welcomes more than 30,000 students every year.

Université Côte d'Azur is made up of different sites located mainly in Nice, Sophia Antipolis and Cannes but widely distributed between Seyne-sur-Mer and Menton. It benefits from a privileged geographical location between sea and mountains offering a pleasant living environment for its staff and students. Its location in the heart of Europe combined with the easy access to the Nice Côte d'Azur International Airport allows it to be an open door to the academic and scientific world.

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**Job Description**

Storage of digital data is becoming challenging for the humanity due to the relatively short life span of storage devices. Furthermore, the exponential increase in the generation of digital data is
creating the need for constantly constructing new resources to handle the storage of this data volume. Recent studies suggest the use of the DNA molecule as a promising novel candidate which can hold 500 Gbyte/mm³ (1000 times more than HDD drives).

DNA data storage is a new promising field of study in which DNA is used as a storage medium for the archival of digital information. Our team (https://mediacoding.i3s.unice.fr) has been studying the efficient encoding of digital information into synthetic DNA over the past 3 years and has developed promising encoding solutions for the efficient encoding of digital data into a quaternary code that consists of the 4 DNA bases A (Adenine), T (Thymine), C (Cytosine) and G (Guanine) according to the needs of DNA data storage. Having attracted great interest, our work has received a funding to build a product based on our studies to be released in the industry.

**Main Activities**

To this end, the main goal of this one-year contract is to transfer the code that has already been developed in MATLAB during our studies, to some more widely used in the industry programming language such as C++ or python while also adding some extra features and optimizing the code’s complexity. This task is part of a pre-maturation project which aims in the valorization of the already existing research results.

The successful candidate will be part of the SIS/MediaCoding research group of the I3S laboratory which is located in Sophia Antipolis and will have the opportunity to work on an emerging topic which is expected to make a great break-through in the following years. The post requires constant collaboration with other members of the team.

**Required Profile**

All applicants should be able to demonstrate the following:

- A strong computing background with solid programming skills
- Good knowledge on C, C++ and Python
- Good knowledge on computational complexity of algorithms
- An ability to work with third-party software and to liaise constructively with the developers of such software
- Knowledge on Image coding, machine learning in its broadest sense and synthetic biology will be appreciated

**Required Skills**

The candidate should be:

- Highly motivated and good team player.
• Master 2 degree in a computer Science related discipline.

• Advanced development skills, C/C++ or equivalent, Matlab, Python.

• Basic knowledge in the domain of Image coding or/and synthetic biology will be appreciated.

• Curiosity, open-mindedness, creativity, persistence, professionalism, responsibility, and a team player are the key personal skills that we are looking for this position.

**Job Localisation**

Laboratory I3S UMR 7271 (University Côte d’Azur and CNRS) at 2000, route des Lucioles, Algorithmes/Euclide B 06903 Sophia Antipolis Cedex.

**Application requirements**

Type of recruitment: CDD of 1 year from 06/04/2021

Recruiting level: Engineer

RIFSEEP:
  o Métier de rattachement:
  o Groupe de Fonction:

**Additional Information:**

Applications, including a curriculum vitae and a cover letter, should be sent to the following address: am@i3s.unice.fr and mel.dimopoulou@gmail.com with copy at recrutement@univ-cotedazur.fr before the 22/03/2021

*Tous nos postes sont ouverts aux personnes en situation de handicap.*

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