Inria

Offer #2024-08141

Post-Doctoral Research Visit F/M PostDoc position in Software Language Engineering.

Contract type : Fixed-term contract

Renewable contract : Yes

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

About the research centre or Inria department

The Inria center at Université Côte d'Azur includes 42 research teams and 9 support services. The center's staff (about 500 people) is made up of scientists of different nationalities, engineers, technicians and administrative staff. The teams are mainly located on the university campuses of Sophia Antipolis and Nice as well as Montpellier, in close collaboration with research and higher education laboratories and establishments (Université Côte d'Azur, CNRS, INRAE, INSERM ...), but also with the regional economic players.

With a presence in the fields of computational neuroscience and biology, data science and modeling, software engineering and certification, as well as collaborative robotics, the Inria Centre at Université Côte d'Azur is a major player in terms of scientific excellence through its results and collaborations at both European and international levels.

Context

Context :

Currently, there is a significant transformation underway in car manufacturing, driven by the concept of Software Defined Vehicles. Software Defined Vehicles (SDVs) allow cars to be upgraded throughout their lifetimes via a centralized architecture, enabling updates and integration of new applications to enhance their functions. This represents the next revolution in the automotive industry, for which many manufacturers are preparing.

A primary objective of Software Defined Vehicles is to establish a flexible and scalable architecture, facilitating **faster development and integration of new features** over the vehicle's lifespan.

In this context, HAL4SDV is an innovative collaborative European project that is starting, bringing together major industrial and academic partners to establish a set of standards and new development practices aimed at **making SDV development more agile**.

The Kairos team, a collaboration between Inria Sophia Antipolis and the I3S laboratory, is seeking a researcher to contribute to this ambitious European project.

Assignment

As a reseacher in the Kairos team, you will apply your research skills at defining innovative design/coding environments that help in implementing the vehicle services/apps of tomorrow. The Kairos vision is that these design environments could leverage an abstraction of the services API and lifecycle to **provide feedback to developers and system architects regarding the functional and extra-functional impact of their services within the global architecture**. Determining the appropriate abstraction and analysis techniques will be an open discussion between the postdoc and the team. The scope of work is broad, encompassing activities such as creating new languages for service API abstraction, employing formal languages for feedback provision, generating simulation environments, studying meta-languages for behavioral semantic definition, and more. Collaboration with our French and European partners will be essential for the success of the project.

Main activities

The researcher will apply their skills in defining an innovative modeling and development environment, enabling SDV development to be more insightful in their service and deployment choices.

Skills

Required skills :

- PhD degree in computer science, software engineering, embedded systems, or a related field.

- Proficiency in one of the following research field:

    - Language Engineering
    - Modeling and Simulation
    - Formal Analysis
    - Contract Based Design
    - innovative Development Methods and Tools

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 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
- Contribution to mutual insurance (subject to conditions)

Remuneration

Gross Salary : 2788 € per month

General Information

- **Theme/Domain :** Software engineering (BAP E)
- **Town/city :** Sophia Antipolis
- **Inria Center :** Centre Inria d'Université Côte d'Azur
- **Starting date :** 2025-01-01
- **Duration of contract :** 3 years
- **Deadline to apply :** 2024-12-31

Contacts

- **Inria Team :** KAIROS
- **Recruiter :**
  Deantoni Julien / Julien.Deantoni@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.

> **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

Applications must be submitted online on the Inria website. Collecting applications by other channels is not guaranteed

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.