Job vacancy #2023-06521

Software engineer-Front-End developper

**Contract type**: Fixed-term contract  
**Level of qualifications required**: Graduate degree or equivalent  
**Function**: Temporary scientific engineer  
**Level of experience**: Up to 3 years

**About the research centre or Inria department**

The Centre Inria de l'Université de Grenoble groups together almost 600 people in 22 research teams and 7 research support departments. Staff is present on three campuses in Grenoble, in close collaboration with other research and higher education institutions (Université Grenoble Alpes, CNRS, CEA, INRAE, ...), but also with key economic players in the area.

The Centre Inria de l'Université Grenoble Alpes is active in the fields of high-performance computing, verification and embedded systems, modeling of the environment at multiple levels, and data science and artificial intelligence. The center is a top-level scientific institute with an extensive network of international collaborations in Europe and the rest of the world.

**Context**

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eMob-Twin is a Prof-of-Concept project in relation with the Scale-FreeBack ERC Advanced Grant awarded to Carlos Canudas-de-Wit during 2016-22, and hosted by the CNRS. The project will be conducted within the DANCE research group (which is a joint CNRS (GIPSA-lab)-INRIA team). eMob-Twin is a digital twin for electromobility flexibility forecast. eMob-Twin will develop an enhanced multi-layer eMobility simulation tool driven by digital twin technology dealing with EVs of all kinds (private vehicles, fleets, and public transport), and the multi-power charging stations. eMob-Twin can be used by companies, stakeholders, and electricity markets for various purposes such as: forecasting e-flexibility, Optimal placement and power-capacity dimensioning of charging stations, assessing charging policies for EV users and energy markets, evaluation of charging strategies for ride-hailing fleet operators, studding the gird resiliency to an increase of EVs penetration rates, etc. Within ERC Scale-Freeback project we have developed a first version of this simulator specifically tailored to the Grenoble metropolitan area.

**Assignment**

The objective of the eMob-Twin in this project is to make this first platform transferable/adaptable to any other city/metropolis, with the possibility of intelligent parameter calibration via several data-mining novel mechanisms. Besides, we seek also to equipped the simulator with new features (toolboxes) and model improvements (models for driver behaviors) resulting from our theoretical research in electromobility. Finally, eMob-Twin will be equipped with an advanced Web Interface & Data Analysis modules displays the e-mobility network, making it easier for users to choose appropriate input parameters and see the computed results. The interface also enables users to study different scenarios using data-analysis tools. This development will be carried out together with the electromobility group constituted by two PhDs and two research engineers.

Join us in shaping the future of electromobility and making a real impact on transportation and energy systems. This is your chance to work on an innovative project that addresses key challenges in the industry, such as forecasting e-flexibility, optimizing charging stations, and evaluating charging strategies for various stakeholders. Do not miss out on this unique opportunity to contribute to groundbreaking research and be at the forefront of digital twin technology in electromobility. Apply now and become a vital part of the eMob-Twin project!

**Main activities**

**Job description.** We seek a collaborative team player for the role of Software (Web) Engineer (SE) to support, organize, design, and develop the eMob-Twin proof of concept. You'll integrate a team of experienced researchers and engineers specializing in control systems, particularly in modeling, prediction, and control of traffic systems, with a focus on Electromobility. Your primary responsibility will be to:
Define a modular software architecture for the new platform
Develop intuitive web user interfaces for seamless user experience,
Create visually engaging data visualization components based on simulation results
Integrate and code of the model improvements and other advanced tool into the platform

Skills

- Software Engineering degree or higher.
- Mandatory skills: Javascript, Python.
- Highly recommended skills: HTML/CSS, Git, Django Framework, Matlab, C++,
- Knowledge of database management systems: PostgreSQL
- Experience in website development, data management, software and infrastructure architecture is a plus
- A native/near-native command of French (spoken and written).
- Proficiency in English (to be able to discuss with our international partners)
- Good planning skills and ability to respect deadlines, and ability to work individually and in a team

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 (90 days / year) 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
- Social security coverage under conditions

Remuneration

From 2,652 € (depending on experience and qualifications) gross salary

General Information

- Theme/Domain : Optimization and control of dynamic systems
- Web development (BAP E)
- Town/city : Montbonnot Saint Martin
- Inria Center : Centre Inria de l’Université Grenoble Alpes
- Starting date : 2023-11-01
- Duration of contract : 1 year, 6 months
- Deadline to apply : 2023-10-31

Contacts

- Inria Team : DANCE
- Recruiter : Canudas-de-wit Carlos / carlos.canudas-de-wit@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

Please send your application including

- Mandatory: Complete CV
- Mandatory: Letter of motivation (at most one page) – briefly describing the personal experience in the relevant areas (see Candidate Profile).
- Mandatory: Degrees and lists of grades (translated to English or French)
- Mandatory: Name and e-mail address of two references (this typically includes your Master thesis supervisor)
- Topic of Master thesis and report if available
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.