



Offre n°2025-08953

Software engineer for MAPIE – P16

Type de contrat : Fixed-term contract

Niveau de diplôme exigé : PhD or equivalent

Autre diplôme apprécié : Engineering degree or Ph.D. in computer science, applied mathematics, numerical methods, statistical learning or related field.

Fonction : Support functions

Corps d'accueil : Ingénieur de Recherche (IR)

Contexte et atouts du poste

Since 2018, Inria has played a crucial role as a support for the State's action in the field of artificial intelligence, in close collaboration with the National Strategy for AI. To steer this mission, Inria has created the AI Program, which is part of the Program Agency set-up entrusted by the State to Inria, and which coordinates innovative cross-functional AI initiatives: research, transfer and support for public policies.

As part of the AI acceleration strategy, and in particular in the area of “developing cutting-edge digital infrastructures, stimulating public-private partnerships and increasing the impact of AI research”, Inria has proposed the implementation of an acceleration project to support the implementation and development of an open and interoperable sovereign platform of AI software libraries for French companies, and its scaling to the European level. This initiative is one of Inria's priorities as part of the development of its AI acceleration strategy, and with the aim of contributing to French technological sovereignty and the economic impact on French industry.

The expected impact of this measure on French industry is to enable all French companies, as well as public and institutional players, to accelerate their digital transformation using AI, without being in a captive relationship with the dominant

players, thanks to the availability of a generic technological base and a set of associated transfer mechanisms.

As part of this ambition, the implementation of the measure is based on the P16 project, whose aim is to develop and disseminate a coherent suite of software for AI and data science based on three actions:

- Action 1 focuses on data interoperability.
- Action 2, “Data Wrangling,” addresses data preparation, aiming to reduce the manual time required in data science projects.
- Action 3 focuses on model training and execution, in particular on scikit-learn. In this context, MAPIE offers a valuable addition to scikit-learn, with algorithms that are specifically designed for uncertainty quantification.

The engineer recruited will be part of the Institute's permanent engineering team, represented at center level by the Experimentation and Development Department (SED).

His or her main activity is part of the MAPIE project, an open-source reference package for uncertainty quantification, based on conformal predictions and integrated into the scikit-learn-contrib ecosystem. As part of its integration into P16 and its strategic alignment with scikit-learn, we are looking for an engineer to participate in the development of new functionalities, reinforce software quality, and increase the library's outreach to the scientific and industrial community.

Mission confiée

Main missions (80%) :

- Development of MAPIE
- Development planning and phasing
- Collaborate with cross-functional teams

Cross-functional missions (20%)

- Take an active part in the life of the Inria Paris engineering community

Principales activités

As part of his/her main mission (80% of his/her time)

1/ Development of MAPIE:

- Participate in the development of new MAPIE library functionality (e.g., uncertainty quantification for LLMs, multi-class classification ...) using robust software development practices.

- Optimize code performance and quality by exploring different implementations.
- Participate in the development and coordination of user community and external contributors.
- Enhance MAPIE's documentation, training materials and communication.
- Monitor advancements in conformal prediction methods, uncertainty quantification, and trustworthy AI to stay current with scientific and technological developments.

2/ Development planning and phasing:

- Participate in task planning and organization of sprints in collaboration with the Capgemini Invent France development team.

3/ Collaborate with cross-functional teams:

- Collaborate with other technical teams within the P16 project to ensure integration of MAPIE with other software components.
- Participate in meetings with related teams to align development goals and efforts.

As part of collective or cross-functional activities (20% of his/her time), the engineer will:

- Participate in training courses, seminars and department activities.
- Promote best practices in software engineering and experimentation within the Institute.
- Participate in drafting projects and advising on development projects.
- Participate in the animation of the software development community in the Center and participate in thematic networks.

Compétences

- Solid experience in Python, with excellent knowledge of libraries such as scikit-learn, pandas, numpy, matplotlib and scipy.
- Advanced skills in data manipulation and statistical analysis, with a thorough understanding of machine learning methods.
- Demonstrated ability to work collaboratively on research and software development projects as part of a multi-location team.
- Ability to reimplement algorithms from academic publications.
- Experience in uncertainty quantification.
- Strong knowledge of software engineering practices, including version control, testing, continuous integration and Agile methodologies.
- Excellent communication skills, enabling effective collaboration with internal and external teams.

Avantages

- 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
- Social security coverage

Informations générales

- **Ville :** Paris
- **Centre Inria :** [Siège](#)
- **Date de prise de fonction souhaitée :** 2025-07-01
- **Durée de contrat :** 12 months
- **Date limite pour postuler :** 2025-07-31

Contacts

- **Équipe Inria :** Prog-IA (ADPnum)
- **Recruteur :**
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A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 200 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

L'essentiel pour réussir

- Relevant experience in similar projects, preferably in the context of artificial intelligence and data research.

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.

Consignes pour postuler

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.