AGILITATEURS université angers

# JOB DESCRIPTION "PROJECT CONTRACT"

**(Publication of the offer)**

## Job title: AI Research Engineer

DEPARTMENT/SERVICE: LARIS, Polytech Angers

Category: A

Body: IGR

**REFERENCES**

*BAP: E*
*Standard job number: E1A41 ou E1C43*
*Standard job title: Computer Science, Statistics, and Scientific Computing*

### Contract characteristics:

- **Desired start date: Preferably June 1, 2026**
- **Project contract duration: 12 months**
- **Working hours: 35 hours**
- **Gross monthly salary: Between €2,290 and €2,486 (depending on experience)**
- **Location (specific geographical assignment): LARIS, Polytech Angers, 62 avenue Notre Dame du Lac, 49000 Angers – France**

### Description of the department and the employee's role within the organization:

***Description and missions of the department***: The host organization is the Angers Laboratory for Research in Systems Engineering (LARIS, https://laris.univ-angers.fr/fr/le-laboratoire/equipe-sfd.html) at the University of Angers. Among other things, LARIS is interested in issues related to guaranteeing and maintaining the performance of complex systems. The research work involved focuses on developing advanced diagnostic strategies based on models and/or data and prognostics, and integrating them into complex decision-making schemes for optimized maintenance of industrial systems.

***Composition of the department***: LARIS is composed of three research teams focusing their research on:

- The study of dynamic systems, particularly discrete events, and their optimization for the Dynamic Systems and Optimization (SDO) team;
- Signal and image processing, mainly applied to life sciences for the Information, Signal, Image, and Life Sciences (ISISV) team;
- Operational safety, particularly with a mechanical engineering component for the Operational Safety and Decision Support Tools (SFD) team.

***Position in the organization chart***: The successful candidate will work within the SFD team.

### Project description (context and objectives):

As part of the EnRDIA project, backed by the ANR DIA-SOLAIRE projecthttps://dia-solaire.univ-angers.fr/fr/index.html), we are recruiting a design or research engineer to develop an innovative digital tool based on artificial intelligence. The tool will enable the generation of real-time alerts, the sharing of operational data and expertise, the implementation of user interfaces adapted to field operators, and the development of operational and predictive maintenance recommendations.

### Description of the main objective that will determine the end of the contract:

The objective of the work is to create an AI-based tool that can be used on tablets, the internet, and smartphones, enabling the issuance of predictions of electrical performance over time based on a downloaded database of measurements, as well as alerts on the health of the production system in order to anticipate losses.

## Description of tasks and activities:

- ***Scoping and requirements analysis phase:*** Analysis of the context of the EnRDIA project and its relationship with DIA-SOLAIRE. Identification of stakeholders (researchers, operators, field staff), collection of functional and technical requirements, definition of priority use cases (alerts, data sharing, maintenance).
- ***Functional specification and tool design:*** Drafting of functional and technical specifications for the digital tool. Design of the software architecture and data flows. Selection of artificial intelligence methods and models suited to the objectives of monitoring and predictive maintenance.
- ***Data collection, structuring, and preparation:*** Setting up pipelines for collecting operational and expert data. Cleaning, structuring, and annotating the data needed to train and validate AI models.
- ***Development of AI modules and alert systems:*** Development and integration of algorithms for analysis, anomaly detection, and real-time alert generation. Development of initial models for operational and predictive maintenance recommendations.
- ***Design and development of user interfaces:*** Development of user-friendly interfaces adapted to the different profiles of field operators. Integration of visualization, data sharing, and expertise feedback features. Creation of a digital twin.
- ***Testing, validation, and continuous improvement:*** Functional and technical testing phase in real or simulated conditions. Adjustment of models, improvement of performance and ergonomics based on user feedback.
- ***Deployment, documentation, and promotion***: Gradual deployment of the tool. Drafting of technical and user documentation. Contribution to the scientific and technical promotion of the project (reports, deliverables, communications).

## Description of expected results and success indicators

| | ***Expected results by period*** | ***Success indicator*** |
|---|---|---|
| 1 | Functional specifications | Validation by all stakeholders |
| 2 | Selection of AI algorithms | Validated comparison results |
| " | Software design/testing | Validated simulation results |
| 4 | Digital twin development | Validation by field experimenters |
| 5 | Tool deployment and corrections | User survey |

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## Technical and scientific skills sought (including but not limited to):

- Knowledge of artificial intelligence applied to physical systems;
- Proficiency in processing and analyzing heterogeneous data;
- Strong interest in energy systems;
- Ability to design the architecture of a software tool (modular, scalable, collaborative);
- Development of user interfaces (web or application);
- Basic knowledge of mobile application development (Android/iOS or multi-platform);
- Database management and structuring of complex data sets.

## Desired cross-functional skills:

- Ability to work in a collaborative research environment (academic and industrial);
- Autonomy, scientific rigor, and initiative;
- Ability to interact with a variety of profiles (researchers, engineers, industrialists);
- Ability to synthesize and communicate information (technical reports, presentations);
- Interest in projects with a societal and environmental impact.

**Proficiency in the following tools**:

- Python (essential);
- R (preferred) or scientific equivalent;
- Knowledge of JavaScript/HTML/CSS (interfaces) is appreciated;
- Web or mobile applications (Flutter, React, PWA, etc.)

**Knowledge of the following frameworks and environments**:

- Data analysis and processing: NumPy, Pandas, SciPy;
- Machine learning/AI: Scikit-learn, TensorFlow, PyTorch (preferred);
- Data visualization: Matplotlib, Seaborn, Plotly.

## Education

Minimum required qualification:

☐ Vocational training certificate (BEP)☐ High school diploma (Bac)☐ Two years of higher education (Bac +2)☐ Three years of higher education (Bac +3) ■ Five years of higher education (Bac +5)

Specialized fields:

- Computer science and/or automation;

## Experience required

☐ Beginners accepted

■ Desired experience: experience using the tools mentioned above.

## To apply :

Send a cover letter and your resume to recrutement@univ-angers.fr