Internship Offer – Data Scientist : Research and Development of AI Agents Applied to Engineering (M/F)

Location: Lyon (Gerland district), France
Duration: 6 months
Start date: February / March 2027
Compensation: According to applicable internship regulations and candidate profile
Contact: antoine.tavant@askills.fr

About the internship

Are you interested in exploring the potential of Generative Artificial Intelligence to address complex, high-impact industrial challenges?

As part of our consulting activities, you will join our AI team (2 Data Scientists), working directly on-site with our client, a major and well-established player in the energy sector.

Our team designs and develops Data/AI solutions to support engineering activities.

This internship is primarily focused on applied research in Generative AI, with the objective of investigating, experimenting with, and evaluating different AI Agent architectures in complex engineering environments.

You will contribute to the development of new methodological approaches for leveraging Large Language Models (LLMs), while studying their performance, reliability, robustness and limitations in real-world industrial applications.

Research objectives and responsibilities

The main objective of this internship is to **investigate, design, implement and benchmark AI Agent architectures** for engineering applications, particularly for the automated analysis of complex technical documentation.

Typical use cases include:

- Checking the compliance of technical documents against engineering requirements.
- Assessing the coverage of industrial standards within supplier documentation.
- Analyzing large volumes of complex technical information.

Working closely with our Data Science team and interacting with engineering domain experts, you will contribute to the following research and development activities:

1. Research problem definition and requirements analysis

- Collaborate with engineering experts to understand their use cases and identify key research challenges.
- Translate business and engineering requirements into measurable research objectives and evaluation criteria.
- Identify relevant approaches and state-of-the-art techniques for addressing these challenges.

2. Investigation and experimentation with LLM-based architectures

- Design, implement and experiment with different LLM-based architectures, including advanced Retrieval-Augmented Generation (RAG), autonomous AI Agents and complex task decomposition strategies.
- Investigate different approaches to prompt engineering, context management and knowledge retrieval, considering the specific requirements of technical engineering domains.
- Compare alternative architectures and analyze their respective strengths and weaknesses.

3. Design of an experimental evaluation and benchmarking framework

- Develop a rigorous evaluation methodology based on relevant performance metrics, including relevance, factual consistency, hallucination rate, completeness, response time and explainability.
- Design and conduct experiments on representative engineering use cases.
- Benchmark the different architectures and analyze their robustness, reliability and performance limitations.
- Identify potential improvements and investigate the conditions under which each approach performs best.

4. Research findings and recommendations

- Analyse and interpret experimental results.
- Document the methodology, experiments and findings.
- Produce technical and methodological recommendations based on the research outcomes.
- Identify promising directions for further research and potential industrial applications.

Desired profile

- **Education:** Final-year engineering student or master's degree (M2) student specializing in Data Science, Artificial Intelligence or Computer Science.

- **Technical skills:**
  - Strong proficiency in Python and standard Data Science libraries.
  - Good practical knowledge of NLP and Generative AI / LLMs (Transformer architectures, RAG, frameworks such as Pydantic AI, LangChain, or equivalent).
  - Interest in LLM evaluation, benchmarking and experimental methodologies.
- **Personal qualities:**
  - Curiosity and analytical mindset: ability to investigate complex engineering challenges.
  - Interpersonal and communication skills: ability to interact with non-specialist stakeholders and engineering experts.
  - Scientific rigour: ability to design reliable experimental protocols, analyse results critically and draw evidence-based conclusions.
  - Autonomy and initiative in exploring and evaluating new technical approaches.

About Askills

Askills is a consulting firm based in Lyon, France. We provide our clients with technical expertise in Data Science and web development.

We are currently a team of around twenty people and aim to continue growing while maintaining a straightforward and transparent company culture.