INTERNSHIP OFFER

Ref : SE-STG-19/20-AI4Requirements

TITLE: Capture and classification of stakeholder requirements through AI

Duration and period

6 Months

Two words about Samares Engineering

Samares-Engineering is recognized expert in field of systems engineering. Samares-Engineering provides consultancy for design offices of large companies in different domains: Airbus, Safran, Renault, Schneider Electric, Continental Automotive, Rockwell Collins, AVIC…

Samares Engineering also does research and provides training courses. It has strong relationships with high schools and research institutes in Toulouse: ISAE Supaero, Enseeiht, CNAM, IRT St Exupery...

Internship context

Amongst systems engineering activities, capture of stakeholder requirements and classification of those requirements into categories (functional, safety, installation…) are time-consuming activities. Requirements come into documents of various formats (excel, PDF, Word, image…) and it is necessary to parse those documents to extract the requirements and register them in a requirements database for future analysis. According to the requirement statement, systems engineers must choose the category that fits the best to classify the requirement. This classification is useful to prepare collaborative work on requirements: classification is used to distribute work (requirement validation and requirement analysis) to the right specialists (design, safety, certification, maintenance…).

Samares-Engineering and Safran Seats are currently investigating an approach relying on Artificial Intelligence to simply and accelerate those two activities (capture and classification). They have defined an internship hosted by Samares Engineering to investigate this approach.

Goal and tasks

Goal: main goals and tasks of the internship are to:

1. Validate the concept of pre-processing input data (textual) in order to automatically: Convert input media, identify requirements, classify Requirements, rate requirements narrative quality.
2. Identify technologies to mobilize: Machine Learning, Natural Language analysis… , identify, compare, rate … identified technologies (preferably open-source)
3. Develop a prototype of the pre-processing chain: Using the most promising technologies identified, producing data in a neutral format that can be injected in requirement management tools.
4. Issue recommendations and a general design for “industrialized” development.
5. Setup of demonstration and video: from previous steps you will build a demonstration and video showing how it works. You will be supported by whole team of Samares. Work will also be presented to Safran. If promising, results will be published to a journal or a conference and you will present it jointly with R&D engineer from Samares.
6. Final report: synthesis, recommendations, and suggestions of new features to be implemented.

Pedagogical goals

Intern will learn and develop skills/knowledge in systems engineering best practices, practical use of requirement management tool, and optimization of AI algorithms, all with good support of experts at Samares Engineering.

Working environment

Samares Engineering is part of Ethics Biotope, an eco-system with different companies and partners involved in building a new vision called “good company”. Collaboration is encouraged and there are many facilities to support companies in their development. It is located in Ethics village at 6 mn from Airport.

Concerning technical environment, you will access to powerful computers and to Samares Lab’ . You will also access multimedia studio to build professional videos with support of specialists (Ethics partners).

Intern expected profile

We are looking for interns with first engineering background and especially in Software Engineering to be able to develop a prototype, and curious about learning new methods and tools.

Location

BLAGNAC- 2, Avenue de l’Escadrille Normandie Niemen, Ethics Biotope.

Internship compensation

900 € net value / month

Application for this offer

You can apply to this offer by email to: contact@samares-engineering.com