



## Thesis Project Form

**Title (tentative):** LLM agents (external, at Arsenale BioYards, <https://arsenale.bio/>)

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### Description

#### Motivation and application domain

At Arsenale BioYards (<https://arsenale.bio/>) we are pushing the frontiers of what is currently possible in synthetic biology, by making precision fermentation economically viable. Artificial intelligence plays a key role in our company: our goal is to automate every possible task, to let humans focus on the hardest challenges.

#### General objectives and main activities

We are looking for a motivated student to carry out a six-month project with us, in which s/he will develop novel solutions to help us building the AI operating system behind our Lab. S/he will be using LLMs (Large Language Models) to this end, learning and building on techniques such as RAG (Retrieval Augmented Generation).

#### Training Objectives (technical/analytical tools, experimental methodologies)

The methods will be developed in Python and the student will have access to high-performance GPUs. The student will have the chance to work in a vibrant startup environment and develop impactful solutions to important problems.

**Place(s) where the thesis work will be carried out:** Mainly (or totally) at home

### Additional information

**Pre-requisite abilities/skills:** Motivated to work in a dynamic, fast-paced environment; Strong Python skills; Experience using Large Language Models; (Plus) Has worked on machine learning projects before

**Maximum number of students:** 1