Research Internship

Setup of a robotic platform for human-machine communication – Application on Poppy humanoid

Context:

LINEACT[1] research laboratory, from CESI institute, is actually developing research works on the theme of "Engineering and digital tools".
Two main applications are considered: "city of the future" and "industry of the future".
In the context of the "industry of the future" application, the current research activities aim at developing autonomous robot platform allowing human and robots to work conjointly together in a same work environment.
In this scope, LINEACT has acquired the Poppy humanoid for its site of Bordeaux.

Mission:

Poppy[2] Humanoid is an open-source and 3D printed humanoid robot. Optimized for research and education purposes, its modularity allows for a wide range of applications and experimentations.
The goal of the internship is to develop a platform with an interface allowing interaction between human and robots. The poppy project will be used for the use case.
The robotic platform should first be designed and then developed using the appropriate software tools (Python, C++ or Java) such that the interface must be ergonomic and easily used.

Resources: Poppy humanoid, etc.

References: To de defined

Skills:

4th year student with major in Computer Science, Embedded Development and/or Robotics.
Proficiency in Python, C++ and/or Java is required.
Analytical skills and technical skills in mechatronics and electronics would be appreciated.

Pre-requisites:

- Self-motivated, accurate and well organized student.
- Good skills in software programming.
- Preferably experience with robot programming, especially in embedded programming.
- Working language is English. Basic knowledge of French is advantageous.

Location: CESI - LINEACT Bordeaux (France)
Working environment: English and/or French
Duration: 3 to 4 months
Starting date: From January 2018
Scientific supervisor: Irwin ISSURY

[1] https://recherche.cesi.fr/
[2] https://www.poppy-project.org/en/