General AI integration: first hardware integration

Component
École Nationale Supérieure d'Électrotechnique d'Électronique d'Informatique d'Hydraulique et des Télécommunications

In brief

- **Ametys Code:** M34HLINC
- **Open to exchange students:** Yes

Presentation

Objectives

- Understand the history of Artificial Intelligence (AI) and the reasons for its rise.

- Understand the different categories of AI, including machine learning and deep learning.

- Be aware of the limitations of AI and the challenges of development (particularly those related to databases).

- Understand different AI algorithms, along with their advantages and disadvantages.

- Develop a consistent and comprehensive database for the development of an embedded model (prepared in the previous semester).

Description

The course consists of 7 hours of lectures and 21 hours of project work. Assessment is based on a project report. The lectures present the concepts outlined in the learning objectives from a theoretical perspective. The project highlights the challenges of

creating a database, even for a relatively simple application. It also provides hands-on experience with tools and hardware for developing embedded AI models on constrained hardware.

Pre-requisites

For the project, proficiency in C for embedded systems (µC) and Python is required.