EPITA - International Programs
AI Project Methodology
2024

Graded Project : Part 3 (AI Project Technical Methodologies)

⇒Goal
The goal of this part 3 is to implement XAI (Explainable AI) on your project done in part 2

⇒Tools
It is recommended to use a linux or mac OS, an IDE with a **recent python version**.

⇒References
Add all sources you may rely on in your report

⇒Restitution
- Use the same github/gitlab repository as for part 2
- Add a section about your work in the same report as for part 2
- Report must be available in the **same group dedicated repository** :
  AI PM_Graded Project_Groups_092024
- You must share your code repository :
  - If you use github, share it with dinamedy@hotmail.com
  - If you use gitlab, share itt with hadjem.m@gmail.com

Implement Explainable AI (XAI) for your project with SHAP

Integrate **SHAP Library** to your Project :

➔ Install SHAP in your python environment (don't forget to add it to your lib requirements)

➔ Use it to explain your model predictions :

- Build a **TreeExplainer** and compute Shapley Values
- Visualize explanations for a specific point of your data set,
- Visualize explanations for all points of your data set at once,
- Visualize a **summary plot** for each class on the whole dataset.
- Go further and generate for a specific data set point :
  - Waterfall plot
  - Force plots
  - Mean SHAP plot
  - Beeswarm plot
  - Dependence plots

The evaluation of this part 3 will be mainly based on the description of your experiments in the report + your project repository on github or gitlab contraining :

- The code of XAI (with shap)

- XAI outputs