Astral Algorithmists : Assignment 3.2

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# Environment Setup & Mini Project

For this assignment we have to create an environment for deep learning, in order to discover the use of this new AI solution. Therefore, we first had to choose the framework to use for this solution. Hence, we chose to use PyTorch in order to discover it. Indeed, previously we used Tensorflow. On the other hand, the use of PyTorch’s dynamic graphs could be a valuable asset for our AI solution. In fact, we will be freer when it comes to creating and customizing the architecture of our future deep learning solution. So, we had to install PyTorch before we could start creating our working environment. Here is a snippet of the installation of PyTorch:

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| --- |
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| PyTorch installation |

As for the creation of the virtual environment, this was done quite easily as you can see the commands below:

|  |
| --- |
|  |
| Creation of the environment |
|  |
| Activation of the environment |

In addition, as most of the members of the group have already used Github before, the creation of a collaborative directory has been simplified. This directory will allow in the future the management of the different versions of our AI. Here is the link of this latter: <https://github.com/Vorpalin/AI_Assignment>

However, the GPU Check recognition caused us the most problem. Indeed, as first we did not understand why CUDA was not available and we thought that was due to a bad installation of PyTorch on our part. After several hours of hard research, we finally understood that this was not a problem itself and that it was normal since we did not have a GPU adapted to CUDA.

Finally, thanks to the code that was provided for this assignment, we were able to test the creation and the results of our model, which works as expected. Here is a snippet of the code performing these tests:

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| --- |
| Une image contenant texte, Appareils électroniques, capture d’écran, logiciel  Le contenu généré par l’IA peut être incorrect. |
| The python script |
| Une image contenant texte, capture d’écran, Police  Le contenu généré par l’IA peut être incorrect. |
| Its result |

To summarize, this homework familiarizes us with the structure and creation of a deep learning model as well as the PyTorch Framework and project management. These various skills will be useful to us both for our current term project but also for all our future projects.