

# Report Introduction

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*Template note: this document is intended to form the beginning of your eventual Self-Learning Report document. In this initial submission you will be writing about the things you are expected to have discovered when selecting your tool: its primary tool domain, the link it has to your personal goals, a justification for why you have chosen it, your search for resources, and information on your domain of application.*

*Anything in italics (like this) you should read as instructions, but not include in your own report.*

*You should stick to the required headings - they are what your marker is going to be looking for to answer key questions. You may add your own subheadings if you wish.*

*While this template is in markdown, your submission will be PDF. It is perfectly fine if you want to generate this from Markdown, or if you want to use Word, Pages, LaTeX, or anything else this is perfectly fine, but you must submit a PDF at the end. The style is not a concern, it is the headings and content that is important.*

## Chosen Tool - PyTorch

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*PyTorch ---- PyTorch is an open source machine learning library based on the Torch library, used for applications such as computer vision and natural language processing, primarily developed by Facebook's AI Research lab (FAIR). It is quite useful in the deep learning field*

## Justification

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*Because Pytorch has a wide range of applications in both machine learning and deep learning. Although artificial intelligence is not the scope of my undergraduate studies, I want to work in this field in the future, so it is necessary to learn it in advance. Learning PyTorch will serve as a self-learning foundation for me to learn other tools. Although there is a lot of pre-requisite knowledge that I don't know about PyTorch (including some mathematical theories, basic concepts of neural networks, etc.), I think I should be able to catch up on this pre-requisite knowledge while learning PyTorch.*

## Resource Search

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*I searched the web for many different sources, including the PyTorch website, the kaggle database, YouTube videos, paperbacks, and official tutorials. I believe that these materials will be enough to complete my self-study tasks for the semester (from level 1 to level 4), and will support me in my deeper studies.*

## \*Domain of Application - Education and Traffic Management

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*In fact, there are many applications that use PyTorch. For example, my Level 1 application is a program that recognizes handwritten characters. This program will be useful in the educational domain, for example, if a student or a tutor uses an iPad to write numbers by hand, this program can convert it to text format very well. My level 4 application is a car plate recognition, which will be useful in traffic management, for example, to help identify the car plates of illegal vehicles.*

## References

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*You must use APA 6th edition for your references. The use of a reference manager like Mendeley or Zotero is recommended. You are expected to use citations to back up your arguments for at a minimum: what your tool is and other information about it, and information regarding your domain of application. And of course you should reference the resources you mention in your Resource Search section.*