

Week #3

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2023-06-19

Overview

In week #1 and #2, you have learnt basic python (related to machine learning) and basic plotting on the various type of dataset.

Now, we can start the fun subject, machine learning!

Task 1

1. Base on your understanding, please differentiate between Artificial Intelligence, Machine Learning and Deep Learning.
2. In the context of machine learning, what is ***train dataset***, ***test dataset*** and ***validation dataset***? For each type, what is the *purpose*?

Note: Answer in table format

Task 2

1. Tackle the *titanic dataset* using *scikit-learn* and *tensorflow* only. Compare and tell what are the main drawbacks for each package.
2. Tackle the *Dogs vs. Cats dataset* using *scikit-learn* and *tensorflow* only. Compare and tell what are the main drawbacks for each package.

Note: Please include what you have learnt in Week 1 and Week 2 for Task 2

Task 3

1. Based on task 1 and task 2, what is the different between an ***AI Engineer*** and ***data scientist***.

Task 4

1. Re-implement Task 2 with *PyTorch*

Note: For all jupyter notebook, follow python coding guideline from (<https://peps.python.org/pep-0008/>)