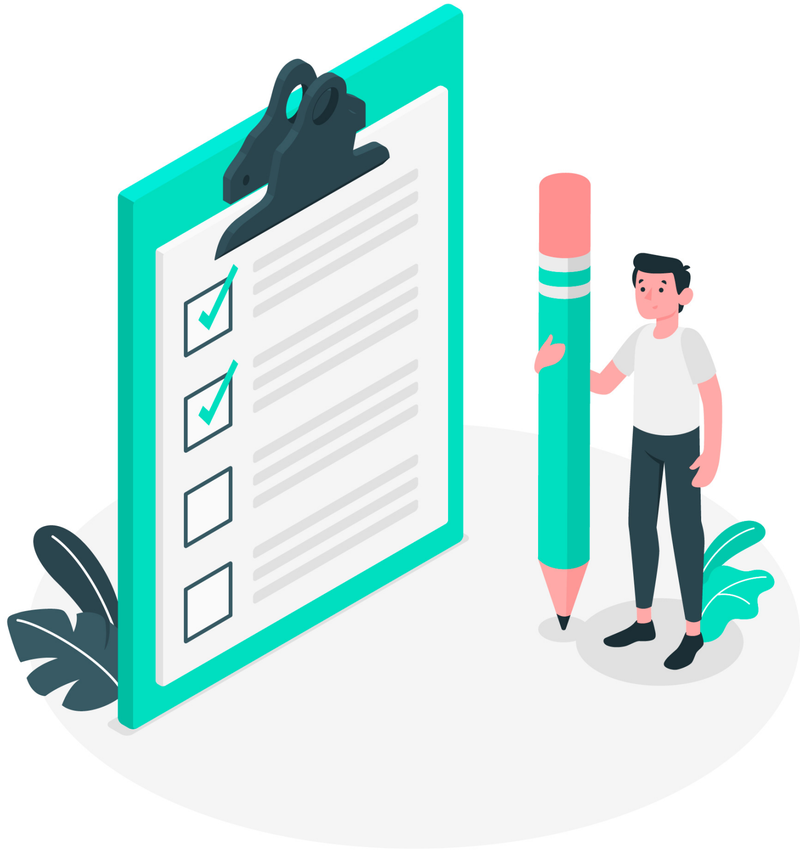
Reminder

Scikit Learn

- Try to solve the scikit-learn reminder to put us on the same ground.

  PS: Feel free to use GenStudio and the patterns to make it simpler! **But you will always need to be there checking the code**



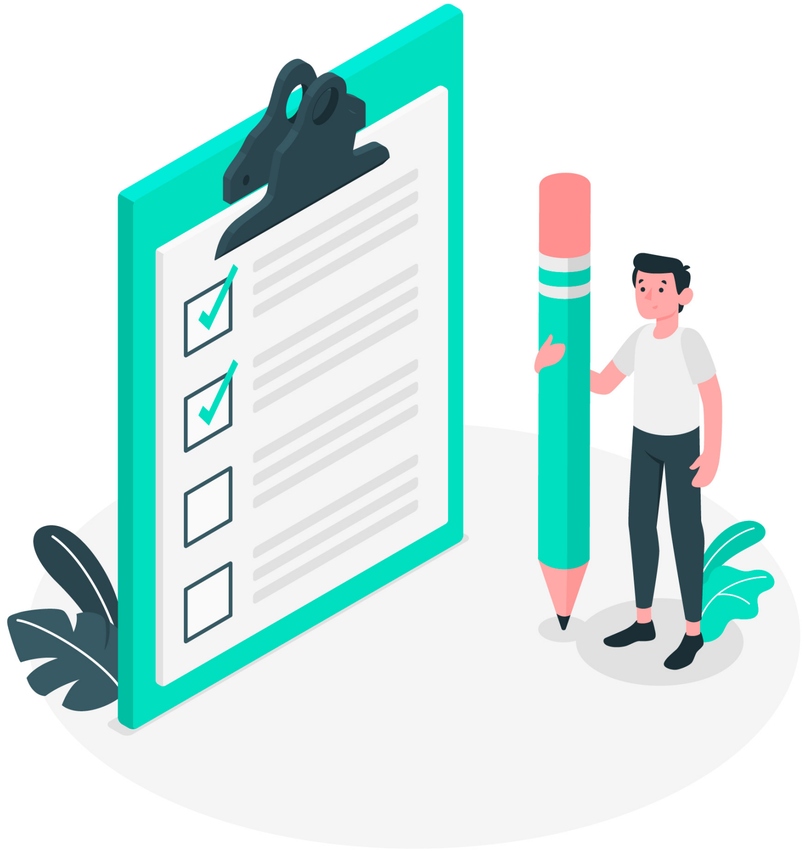
Reminder

Tensorflow

- Try to solve the Tensorflow reminder to put us on the same ground.

  PS: Feel free to use GenStudio and the patterns to make it simpler! **But you will always need to be there checking the code**

  PS2: If you do not know this tool let me know and I explain it!



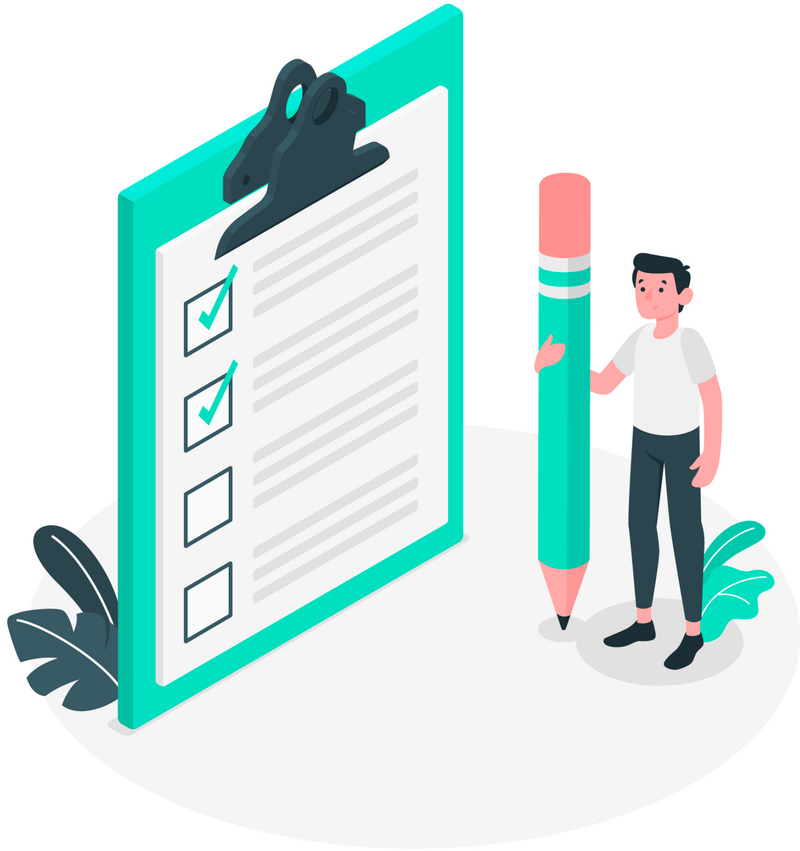
Reminder

Keras

- Try to solve the Keras reminder to put us on the same ground.

  PS: Feel free to use GenStudio and the patterns to make it simpler! **But you will always need to be there checking the code**

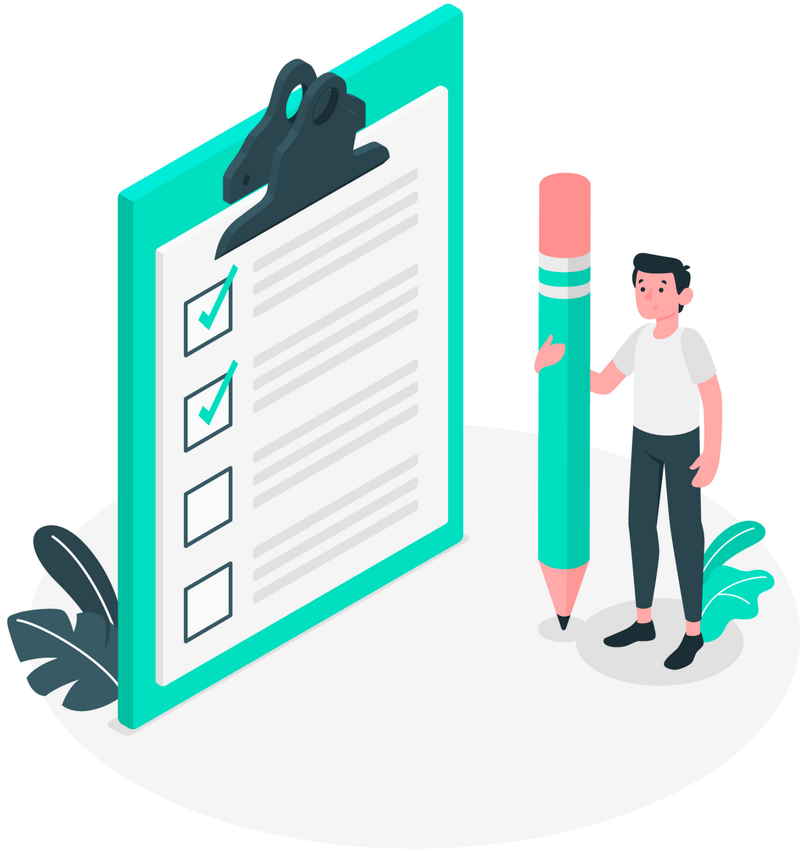
  PS2: If you do not know this tool let me know and I explain it!



Demo

Hugging Face

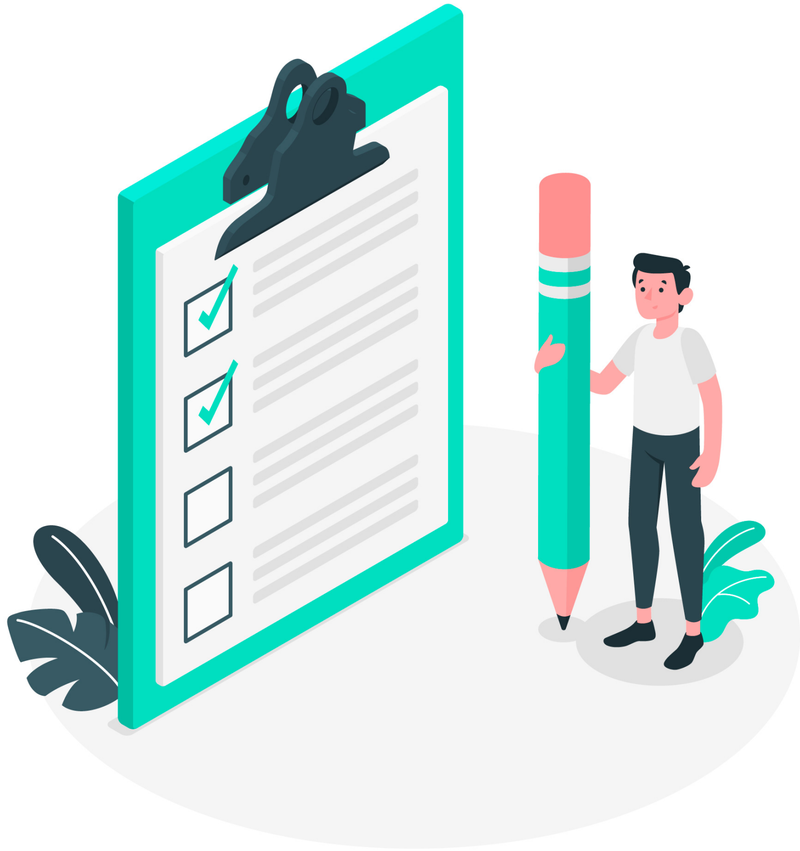
- We will solve the Hugging Face lab to put us on the same ground.



LAB

Prompt Engineering with T5

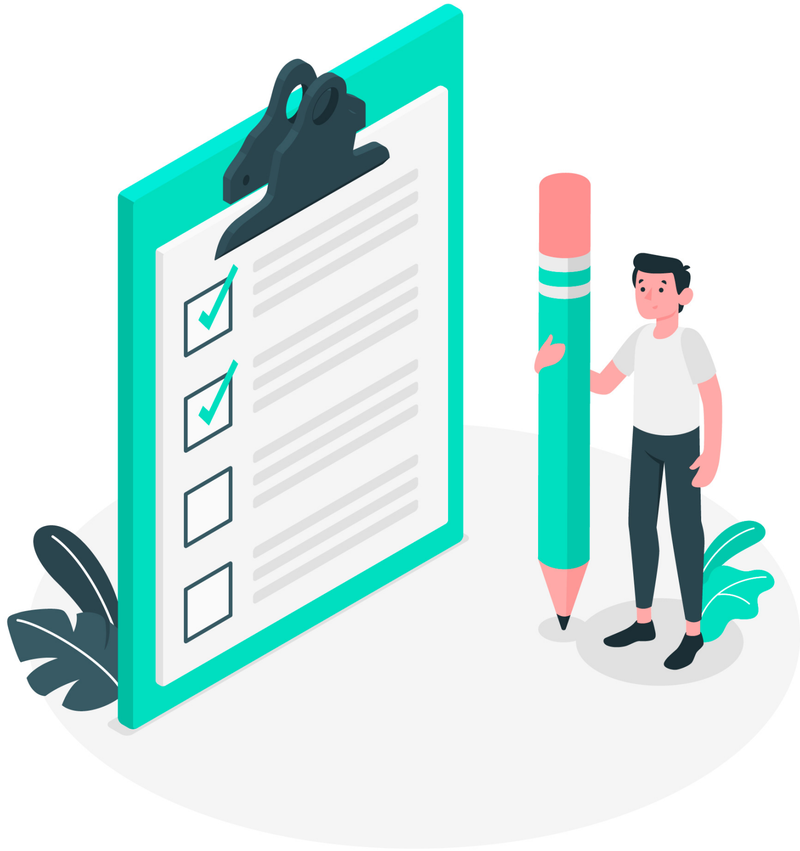
- Make Tensorflow code using HF to use flan-t5 and do prompt engineering on it to summarise conversations
- Use the patterns to make this easier!
  Verify the outputs of GenStudio!
  Think which dataset is best to use



Capstone

Creating a simple model

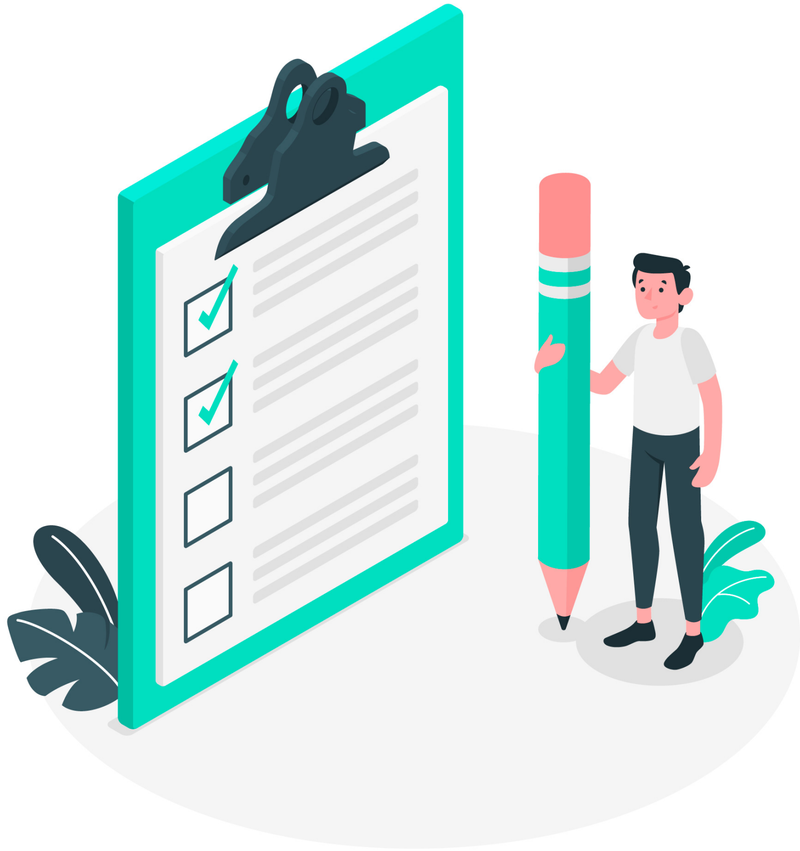
- Make a prompt to GenStudio for it to train a LinearRegression on Tensorflow on the Boston housing dataset



LAB

Data Preprocessing

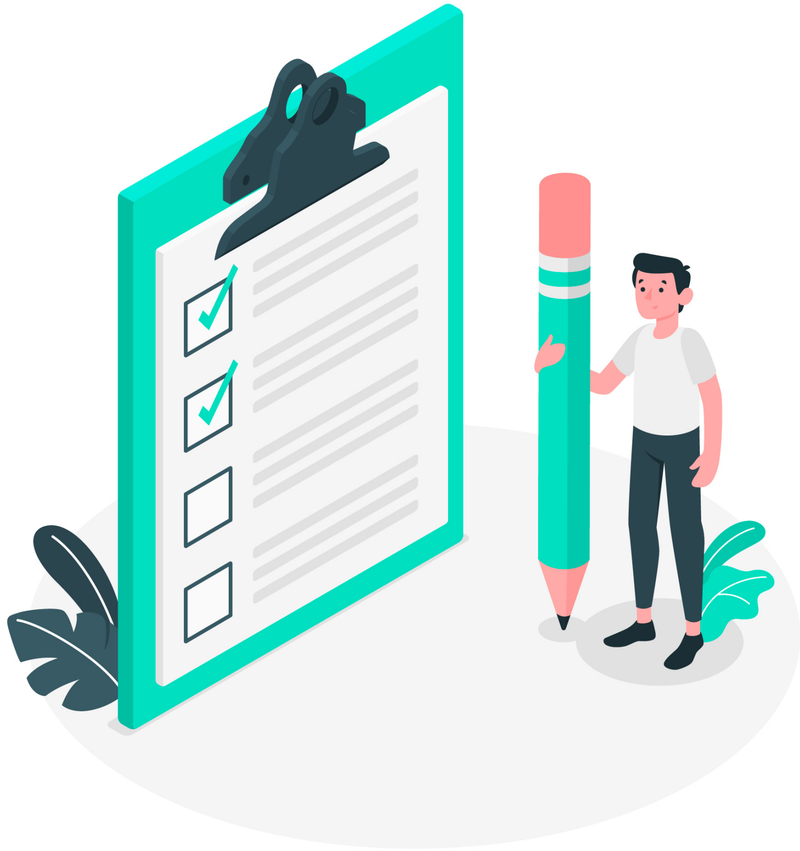
- Use the yelp dataset (I will share the URL) and make GenStudio create the code to do the data preprocessing and tokenisation into a tensor of IDs
- Think the best prompt to do this
- You are free to use StringLookup or Keras Tokenizers or WordVectorizers



LAB

Modelling

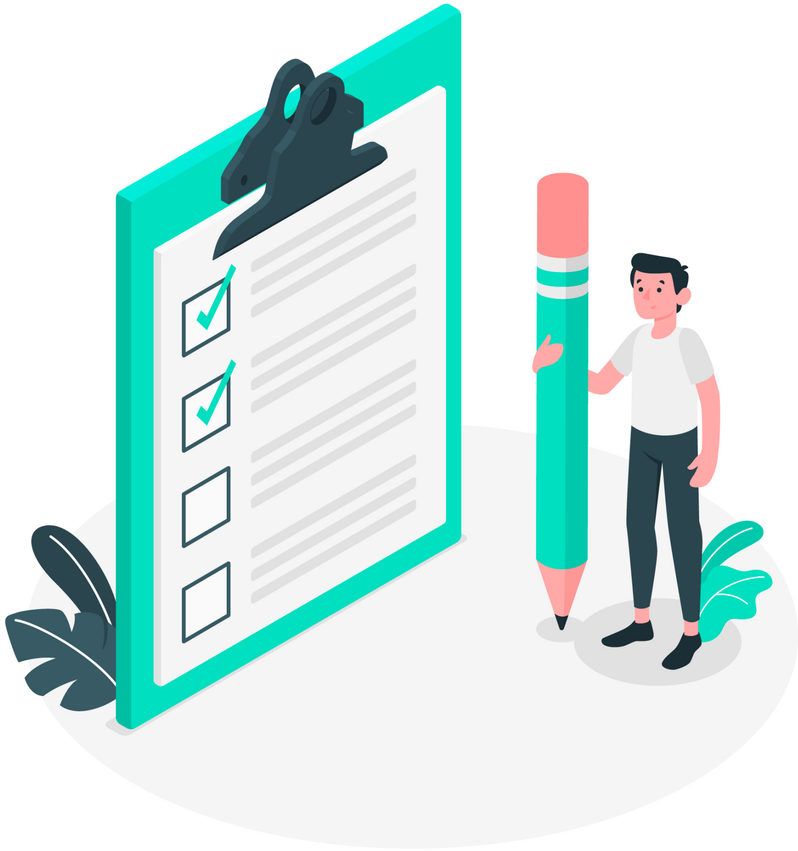
- Moving to the modelling, create a bidirectional RNN model that performs Sentiment Analysis on the yelp dataset
- After you have made it work, add a layer of hyperparameter tuning on the learning rate



LAB

Modelling

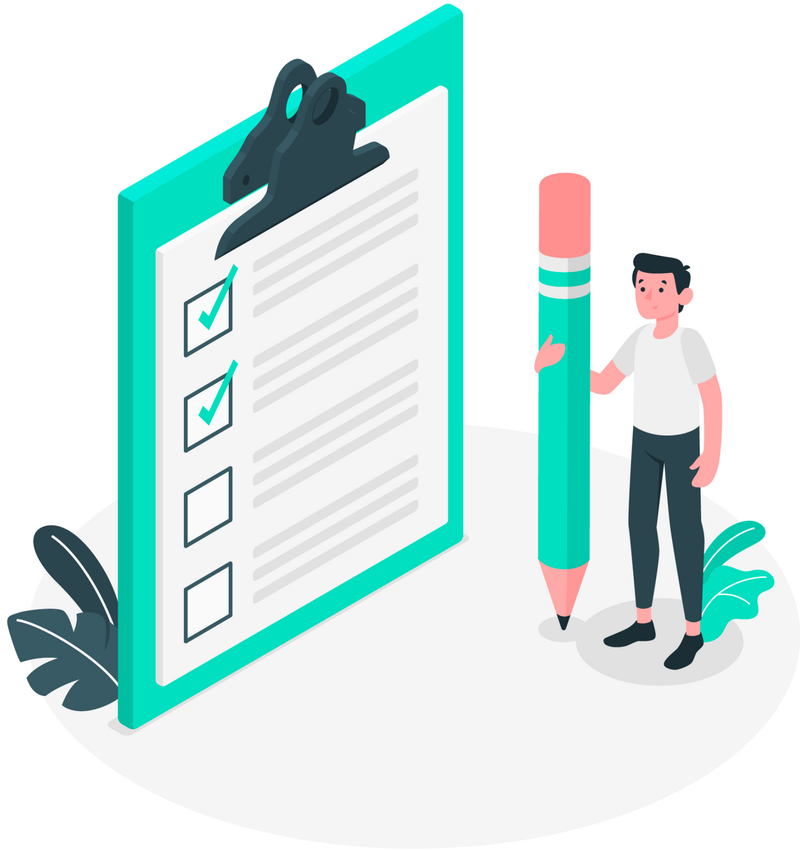
- Change your model and now do transfer learning on distillBERT to perform sentiment analysis



LAB

Modelling (Optional if there is time)

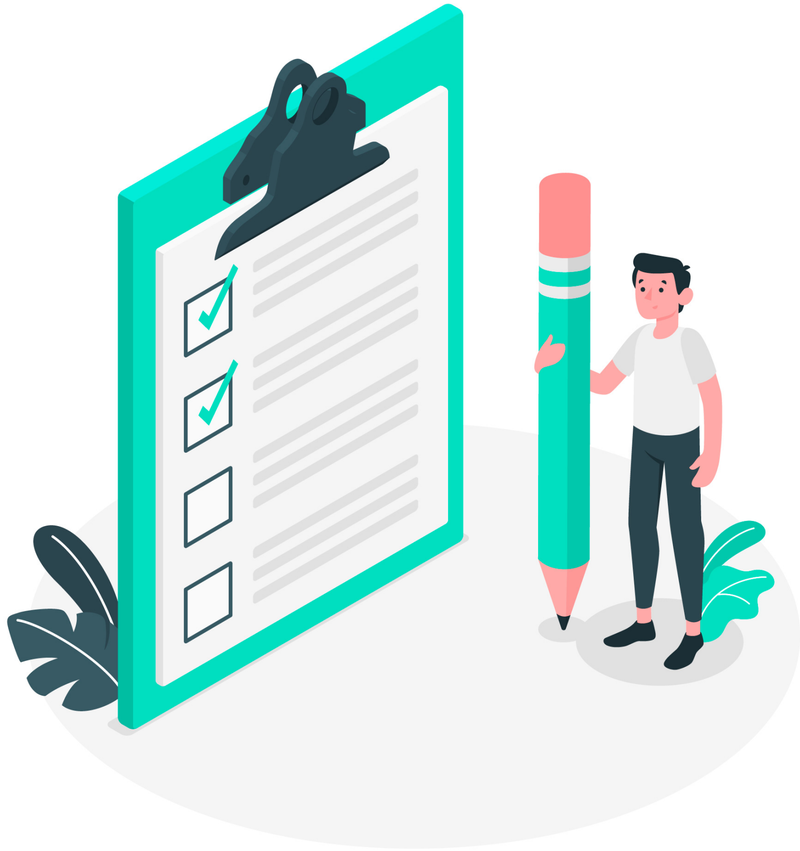
- Use the distillBERT model as base and perform LoRA fine-tuning on it to do Sentiment analysis training faster.



LAB

Modelling (optional if we have Time)

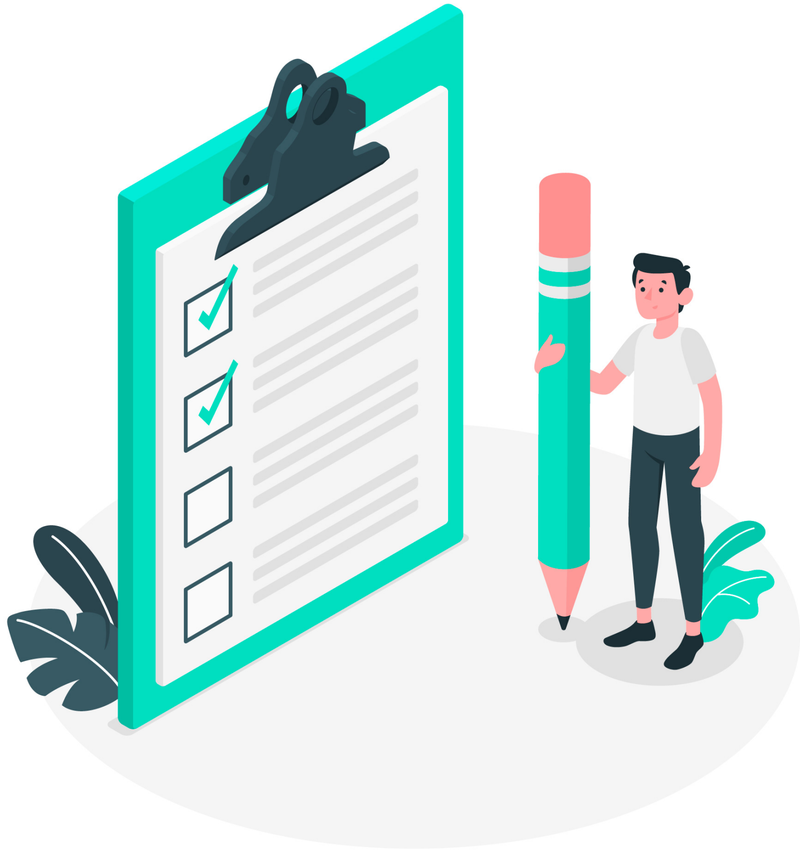
- Distill the model you created into a smaller one (doesn’t need to be 10%, 30% is OK) from prompt and iterations



LAB

Reporting

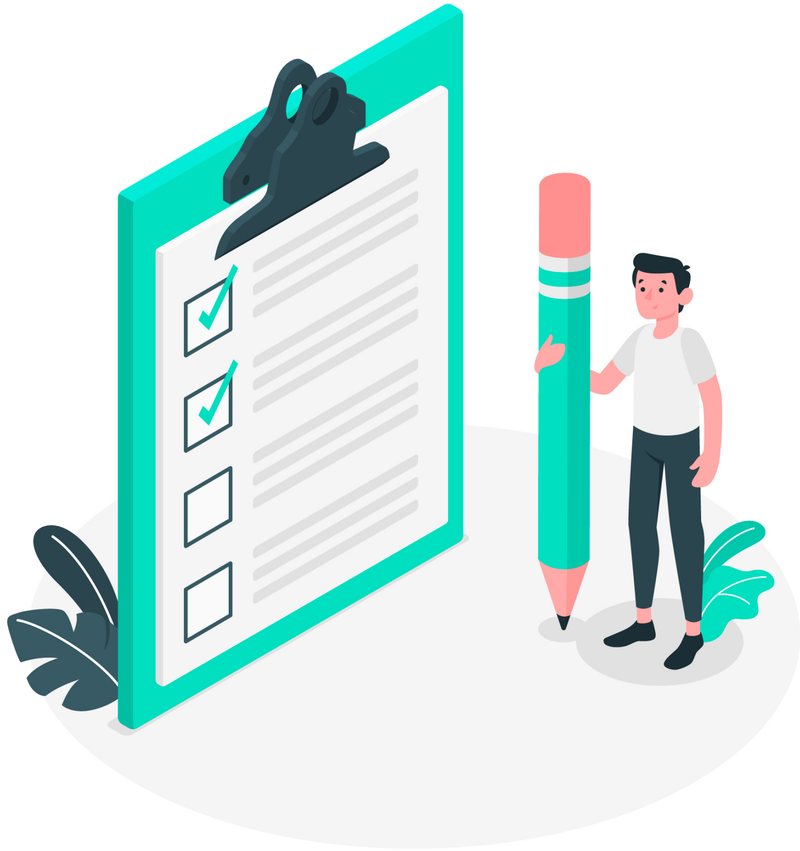
- Finally make a prompt that generates some plots showing how the model performs and the learning curves.
- Also include the F1 score and Precision and Recall information



Capstone

Sentiment Analysis

- Make everything together in one go. Notice that a pattern can help you here in making it all work in one go.



Use DistilBERT to detect toxicity

- The goal is to detect toxicity of comments, but trying to use TFDistilBertModel!