# Transformers

In this assignment, the goal is to use Transformers for NLP tasks. You have the choice to select one of the following tasks.

## Task 1: Chatbot

You must develop a chatbot based on a transformer model. The chatbot must have the ability to get the user's chat text and use the model to generate the answer. The user input text and the model answer may be shown on the console output.

**Hint: You don't have to train the model from scratch, you need to load a pre-trained model and apply fine-tuning on the model using your dataset. In this task, you need to present the running code.**

## Task 2: Spam Detection

You must develop a spam detection system. The system must have the ability to get an email text as input and then classify it into spam or not spam.

To achieve better performance, you have to build several systems and compare their results using several feature engineering techniques and several machine learning algorithms (such as SVM, and Neural Network).

Feature Engineering techniques to be used:

1- TF-IDF vectorization
2- Pre-trained BERT Model (Search for how to use the model to give it an email text as input and get an embedding vector representing the email text as output).

**Hint: Don't forget you need to download and use a dataset for spam detection, to train and test the several systems. In this task, you need to present the comparison table of the several systems and the running code.**