**Lab 3 - Fine-tune FLAN-T5 with reinforcement learning to generate more-positive summaries**

In this notebook, you will fine-tune a FLAN-T5 model to generate less toxic content by Facebook's hate speech reward model. The reward model is a binary classifier that predicts either "not hate" or "hate" for the given text. You will use Proximal Policy Optimization (PPO) to fine-tune and detoxify the model.

**Setup the lab**

*Notes*:

* For the lab, it is better to use a laptop or desktop computer instead of a tablet.
* The lab uses Amazon Web Services (AWS) which take some time to spin up. You may need to wait a few minutes for the lab to open.

1. Go to **Amazon SageMaker**.

A screenshot of a computer

Description automatically generated

1. Click on **Studio** and then **Open Studio**.

A screenshot of a computer

Description automatically generated

1. Click on **Launch** -> **Studio**. You may need to wait for a few moments and then hit a refresh button to see the **Launch** button.

A screenshot of a computer

Description automatically generated

1. Wait a few moments...

A logo on a dark background

Description automatically generated

...welcome to SageMaker Studio. Click on **Open Launcher**.

A screenshot of a computer

Description automatically generated

*Note:* If you do not see the SageMaker Studio screen shown above, you may need to disable pop up blockers and/or VPN.

1. Open System terminal.

A screenshot of a computer

Description automatically generated

1. Use the following command (you can copy and paste it) in the System terminal to download the lab:

**aws s3 cp --recursive s3://dlai-generative-ai/labs/w3-233794/ ./**

A screenshot of a computer

Description automatically generated

1. Click on the folder icon on the left to find the downloaded notebook:

A screenshot of a computer

Description automatically generated

*Note:* You might need to update the environment to see the downloaded notebook.

A screenshot of a computer

Description automatically generated

1. Open Lab\_3\_fine\_tune\_model\_to\_detoxify\_summaries.ipynb notebook (if you need to set the kernel, please choose "Python 3 (Data Science 3.0)" with instance type ml.m5.2xlarge).

A screenshot of a computer

Description automatically generated

## **Lab content: Fine-Tune FLAN-T5 to Generate More-Positive Summaries.**

1. Follow the lab instructions in the Lab\_3\_fine\_tune\_model\_to\_detoxify\_summaries.ipynb notebook.

A screenshot of a computer

Description automatically generated

**Finish the lab**

1. If you wish to download the notebook, right-click on the notebook file in the File Browser, then select **Download**. Or in the main menu, choose **File**, then **Download**.

*Note:* If you were running the lab in your own AWS account, please shutdown the SageMaker Studio instance.

1. Close all the windows of the AWS Management Console.
2. Click on Submit button to complete the lab. If you want to verify whether the lab is successfully completed, click on Grades button.

*Note:* The AWS account, which was created for the lab, **expires within 2 hours**. During this period you can close all of the console windows and come back to your work later. After the expiration the current AWS account will go through a cleanup procedure (which will take up to 25 minutes), then the access to the new account will take longer (up to 20 minutes) and your previous work will not be saved. **To save the notebook locally** before the expiration you can download the notebook from the Amazon SageMaker Studio (right click on the notebook -> “Download” command).