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Machine Learning for Hackathons

Your Lead

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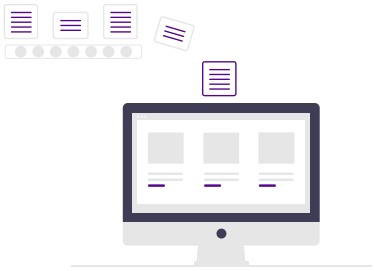

Description

In this workshop, we will be explaining the basics of Machine Learning and NLP and we will also be experimenting with 'straight out-of-the-box' functionalities of HuggingFace Transformers, without using any data, training, pre-training, or fine-tuning of any sort. Finally, we will be explaining how ML Models can be deployed to a simple Web App using Streamlit.

We'll first play around with them in Jupyter notebooks and then we will create web apps out of them. We will also be showing how to finetune a model quickly too, but that will be left as a further resource.

We will be going over some of the important NLP concepts like:

- Sentiment Analysis
- Question Answering
- Mask Fill
- NER (Named-entity recognition)
- Text Generation (GPT-2)
- Summarization

Prerequisites

- Prerequisite knowledge
  - Knowledge of Python
  - Basics of Jupyter notebooks
- Things to have ready
  - Have a Python environment setup
  - Repo we'll be using: https://github.com/gagan3012/MLH

Outline

Section Name	Description	Length
Introduction	Machine Learning basics and Getting to know your speaker	5 - 10 mins
What is machine learning?	Details and description of Machine Learning	15 mins
NLP basics	What is NLP and Why is it so important	15 mins
NLP Tasks	What are the Different NLP Tasks	5 mins
My ML toolkit	How to get started with ML	10 mins
ML Tools in detail	Few tools in detail to understand ML libraries	10 mins
Colab Experiments	Jupyter Notebooks Experiments and understanding how the transformers pipeline works	15 mins
ML Web Apps	How to convert a ML model in to web app using streamlit	15 mins

Resources

- All the resources can be found here