

HUGGING FACE LAB MANUAL

What is Hugging Face and Why Should We Learn it ?

A Hugging Face account is your gateway to the vibrant AI community and platform focused on machine learning (ML) models, datasets, and applications

It is a hub for exploring, sharing, and collaborating on cutting-edge AI technology.

Therefore

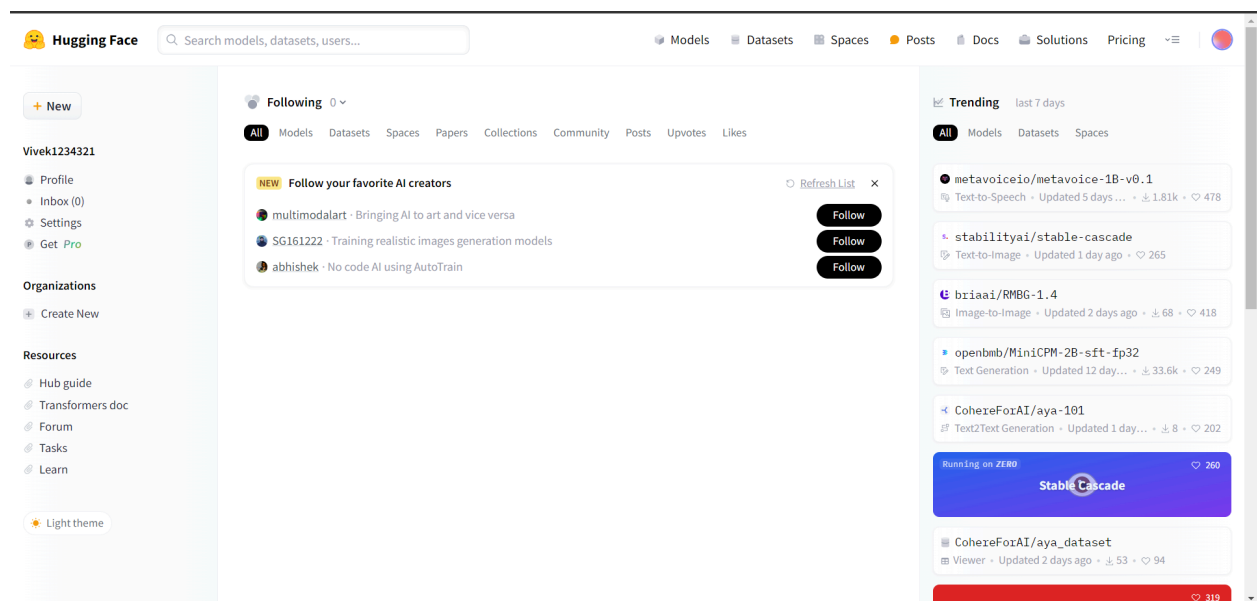
Setting Up Hugging Face Account:

Sign-up in the account :

Step 1 : <https://huggingface.co/>

Once the account is created , Sign in to the account

This is How the Home Page looks :



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Let's Explore Few Sections of hugging face :

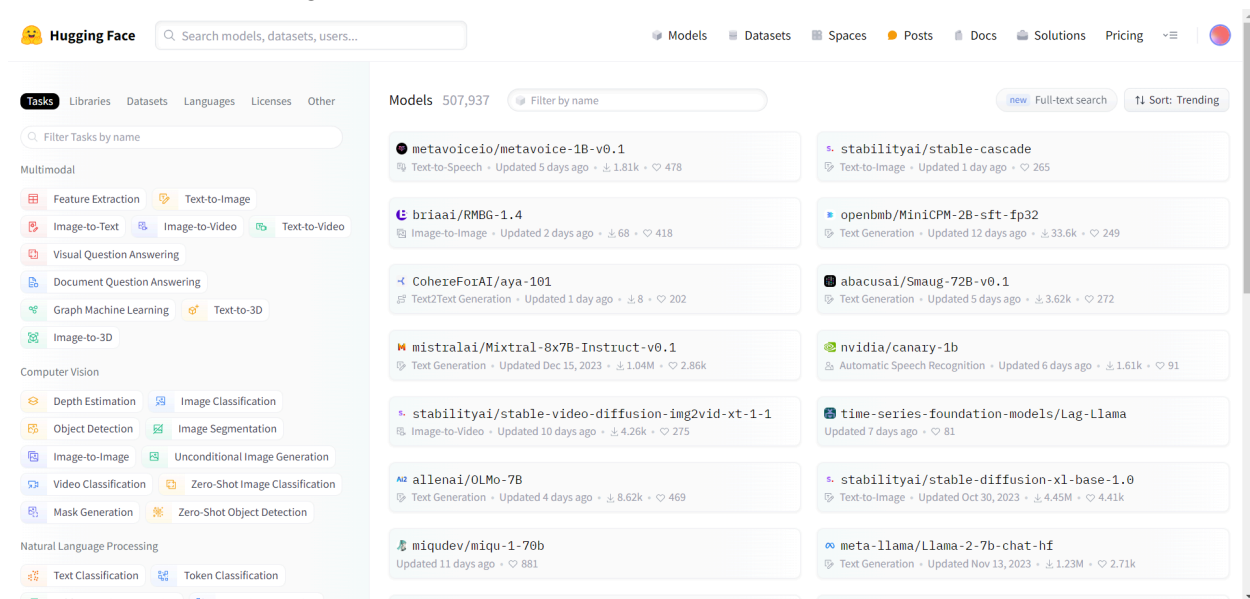
1. Models
2. Datasets
3. Spaces

1. Models:

A Repository Where all the models pushed to the hugging face resides , One can go to the models and search as per the requirements and use it right away

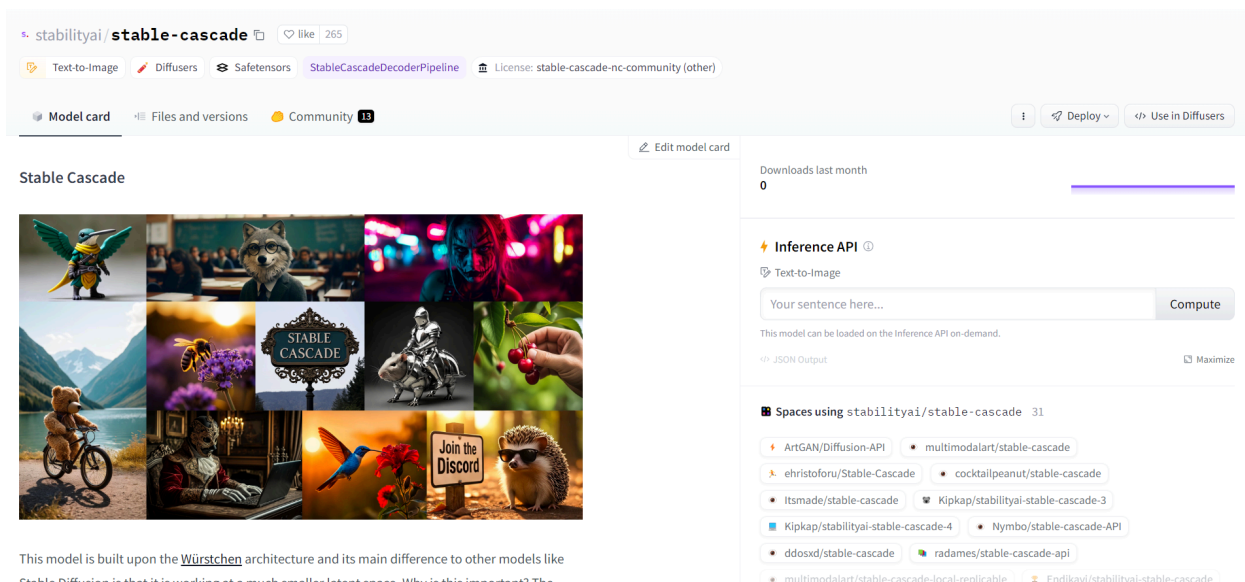
In order to use a particular model , one has to go through the dependencies Required to run the model

This is how a model page would look like :



Upon Clicking a model :

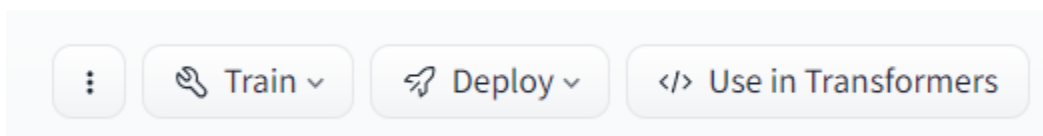
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The Description of the Model , Architecture and the Sample code can be found under Model Card

The Files and Versions Contains all the Sharded Model files, This is pulled everytime we run an a transformer

To use the model : Click on the deploy/Transformers tab which is on the Top-Right



After Clicking :

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How to use from the Transformers library

```
# Use a pipeline as a high-level helper
from transformers import pipeline

pipe = pipeline("text-generation", model="meta-llama/Llama-2-7b-chat-hf")

# Load model directly
from transformers import AutoTokenizer, AutoModelForCausalLM

tokenizer = AutoTokenizer.from_pretrained("meta-llama/Llama-2-7b-chat-hf")
model = AutoModelForCausalLM.from_pretrained("meta-llama/Llama-2-7b-chat-hf")
```

Quick Links

- Read model documentation
- Read docs on high-level-pipeline
- Read our learning resources

This is the base code to run the LLM model.

2. Datasets :

Hugging Face

Search models, datasets, users...

Models Datasets Spaces Posts Docs Solutions Pricing

Tasks Sizes Sub-tasks Languages Licenses Other

Filter Tasks by name

Multimodal

- Feature Extraction
- Text-to-Image
- Image-to-Text
- Image-to-Video
- Text-to-Video
- Visual Question Answering
- Graph Machine Learning
- Text-to-3D
- Image-to-3D

Computer Vision

- Depth Estimation
- Image Classification
- Object Detection
- Image Segmentation
- Image-to-Image
- Unconditional Image Generation
- Video Classification
- Zero-Shot Image Classification
- Mask Generation
- Zero-Shot Object Detection

Natural Language Processing

- Text Classification
- Token Classification
- Table Question Answering
- Question Answering
- Zero-Shot Classification
- Translation

Datasets 107,947

Filter by name

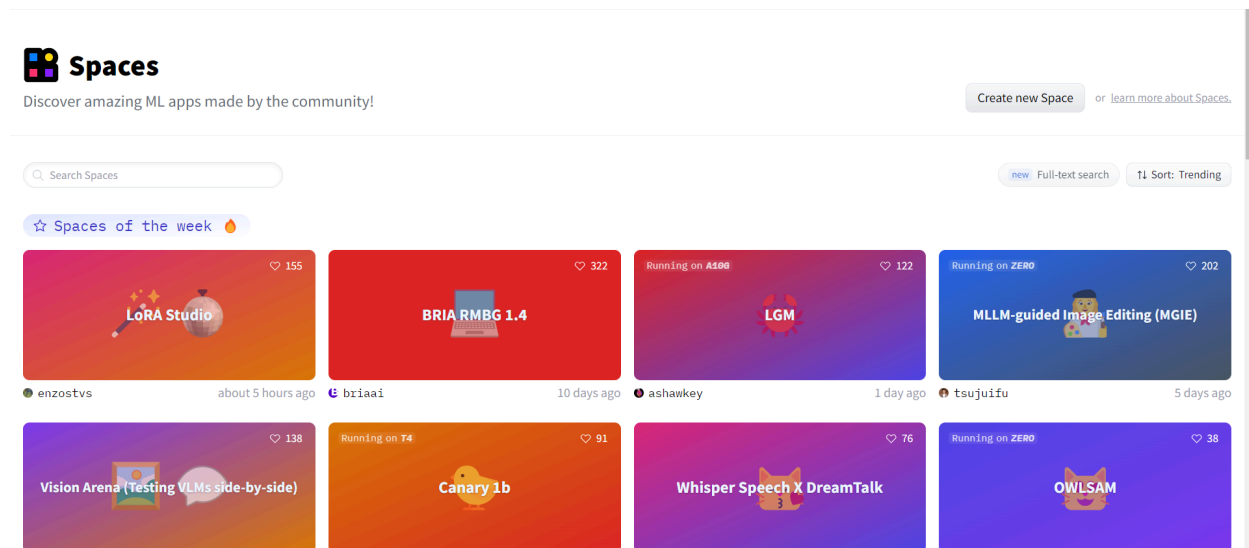
new Full-text search 11 Sort: Trending

- CohereForAI/aya_dataset**
Viewer · Updated 2 days ago · 53 · 95
- CohereForAI/aya_collection**
Viewer · Updated 2 days ago · 35 · 67
- Locutusque/UltraTextbooks**
Viewer · Updated 13 days ago · 515 · 149
- fka/awesome-chatgpt-prompts**
Viewer · Updated Mar 7, 2023 · 7.88k · 4.64k
- teknium/OpenHermeS-2.5**
Viewer · Updated 10 days ago · 7.87k · 374
- argilla/OpenHermeS2.5-dpo-binarized-alpha**
Viewer · Updated 5 days ago · 222 · 34
- allenai/dolma**
Updated 12 days ago · 995 · 587
- CohereForAI/aya_evaluation_suite**
Viewer · Updated 2 days ago · 23
- HackerNoon/tech-company-news-data-dump**
Viewer · Updated 9 days ago · 10 · 29
- math-ai/AutoMathText**
Viewer · Updated about 24 hours ago · 233 · 77
- Open-Orca/OpenOrca**
Viewer · Updated Oct 21, 2023 · 37.4k · 1.07k
- liuhaotian/LLaVA-Instruct-150K**
Preview · Updated Jan 3 · 207 · 270
- Shitao/MLDR**
Updated 9 days ago · 681 · 23
- McGill-NLP/WebLINX**
Viewer · Updated 1 day ago · 2 · 13

The dataset page allows the user to Find Datasets for specific Use Case and also allows to filter the datasets

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Spaces : It's a unique way to host and share interactive machine learning (ML) applications directly on the platform.



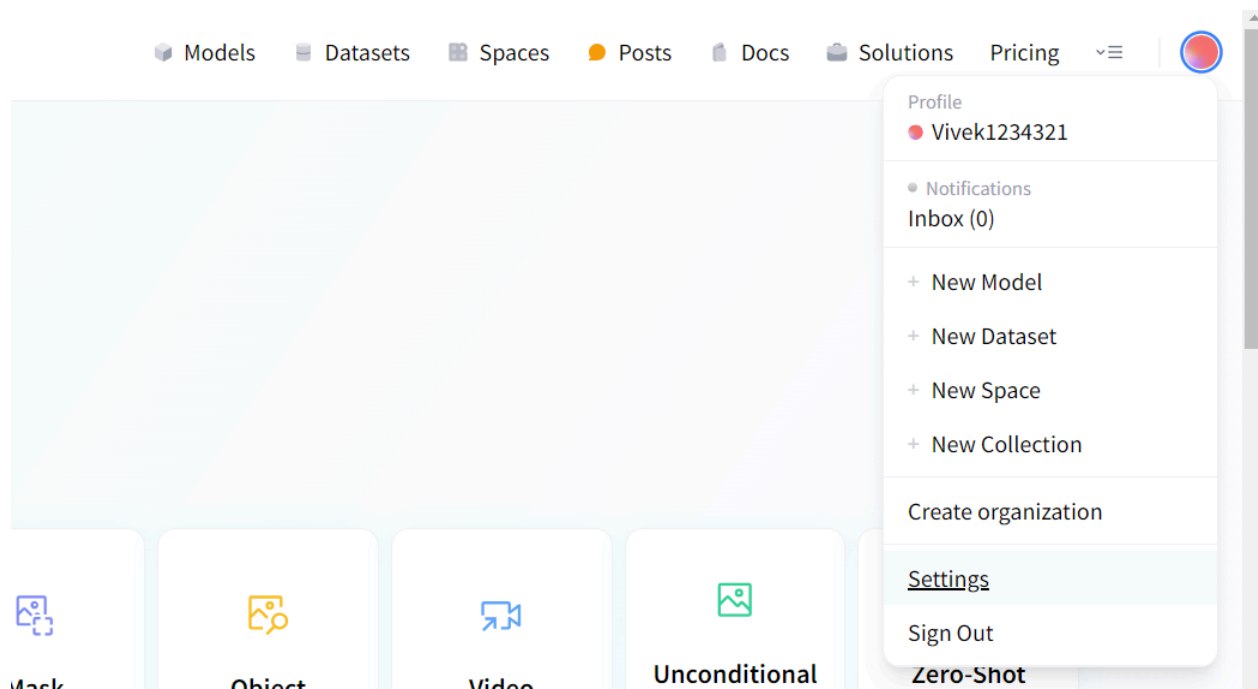
4.Posts

So Let's Now use transformers from Hugging Face , In order to Pull a file from hugging face hub we need a read Api key and likewise to push a file to hugging face hub we need a Write key

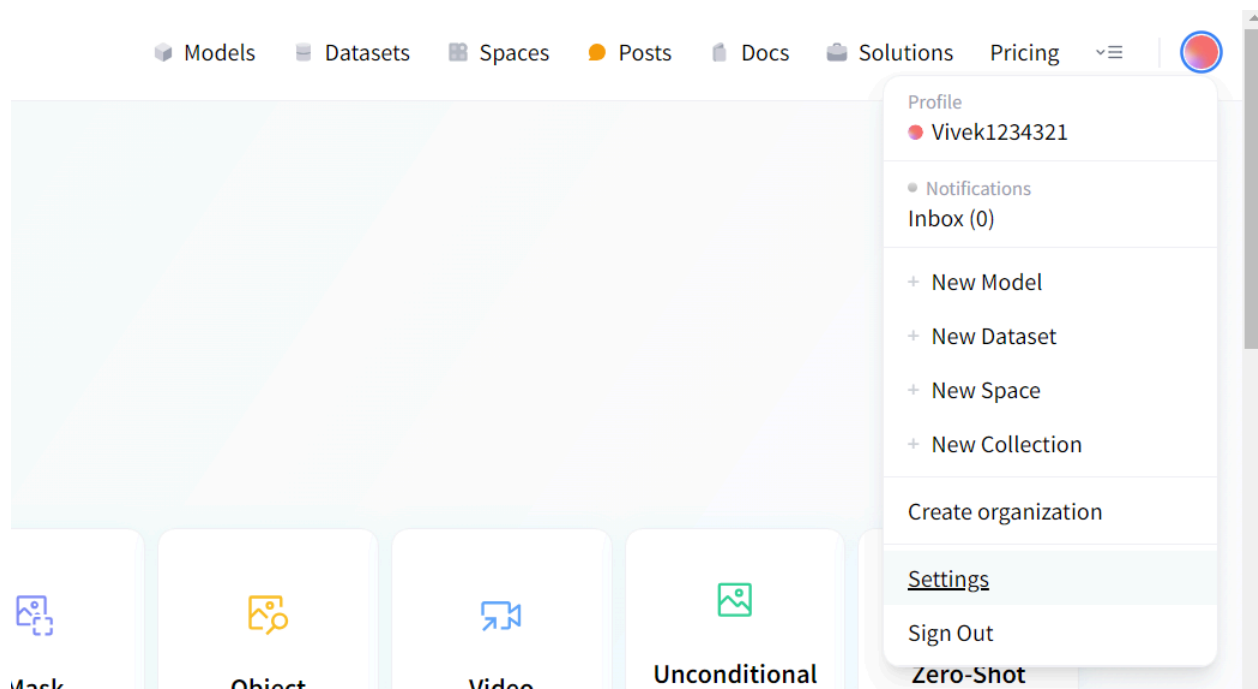
Lets now set up Read and Write key

Step-2 :

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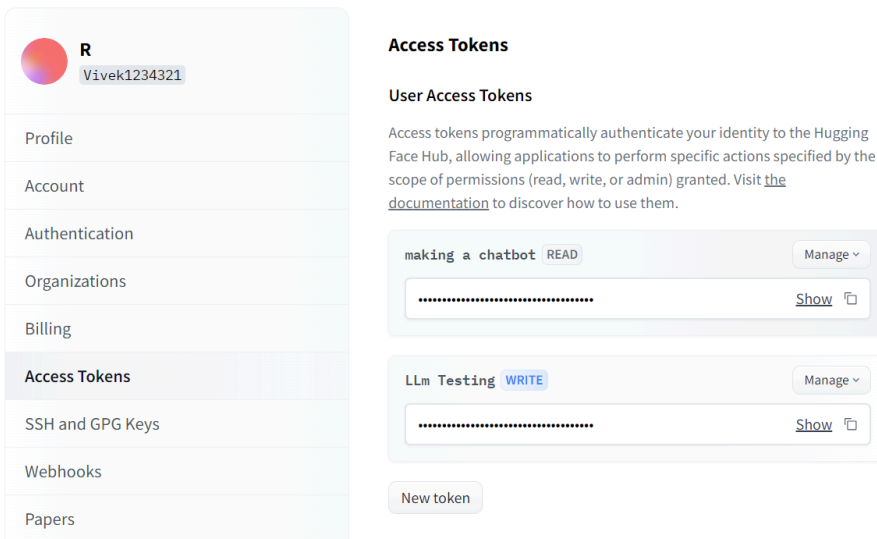


Click on the setting found the top-right corner of the home page



Click on Access Tokens and then Click New Token

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Create a Read and Write Token Respectively .

Read and Write token is used for authenticating the users to Pull and push the models, Datasets and creating new repositories

Read token:

Offers read-only access to the Hub.

Allows you to:

- Download public and private models you have access to.
- View information about models and datasets.
- Use models for inference (making predictions).

Doesn't allow:

- Uploading new models or datasets.
- Modifying existing resources on the Hub.

Write token:

Grants both read and write access to the Hub.

Includes all the functionalities of a read token, plus:

- Uploading new models and datasets.
- Creating new repositories.
- Modifying existing models, datasets, and repositories you have write access to.
- Pushing changes to private repositories.

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At this point , the users have created a hugging face account , acquired basic understanding about the hugging space and set up Read and Write api token .