

# Pre-Work: Hugging Face

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# Introduction to Hugging Face

- Hugging Face is a machine learning and data science platform empowers users to **build, train, deploy and perform continuous integration and continuous deployment of machine learning models**
- Hugging Face has emerged as a prominent player in the ever-evolving landscape of machine learning and artificial intelligence
- Hugging face is the place for open source generative models, where we can access any model and understand the code behind it
- It hosts **1000+ pre-trained models, datasets and demos**

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# How to Sign Up and Login in to Hugging Face Account

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**NEW** Create Assistants in HuggingChat



# The AI community building the future.

The platform where the machine learning community collaborates on models, datasets, and applications.

[Click here](#)

Tasks Libraries Datasets Languages Licenses Other

Filter Tasks by name

Multimodal

- Text-to-Image
- Image-to-Text
- Text-to-Video
- Visual Question Answering
- Document Question Answering
- Graph Machine Learning

Computer Vision

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

Natural Language Processing

- Text Classification
- Token Classification
- Table Question Answering
- Question Answering
- Zero-Shot Classification
- Translation
- Summarization
- Conversational
- Text Generation
- Text2Text Generation
- Sentence Similarity

Audio

- Text-to-Speech
- Automatic Speech Recognition
- Audio-to-Audio
- Audio Classification
- Voice Activity Detection

Tabular

Models 469,541 Filter by name

meta-llama/Llama-2-70b  
Text Generation • Updated 4 days ago •  $\pm 25.2k$  •  $\heartsuit 64$

stabilityai/stable-diffusion-xl-base-0.9  
Updated 6 days ago •  $\pm 2.01k$  •  $\heartsuit 393$

openchat/openchat  
Text Generation • Updated 2 days ago •  $\pm 1.3k$  •  $\heartsuit 136$

llyasviel/ControlNet-v1-1  
Updated Apr 26 •  $\heartsuit 1.87k$

cerspense/zeroscope\_v2\_XL  
Updated 3 days ago •  $\pm 2.66k$  •  $\heartsuit 334$

meta-llama/Llama-2-13b  
Text Generation • Updated 4 days ago •  $\pm 328$  •  $\heartsuit 64$

tiiuae/falcon-40b-instruct  
Text Generation • Updated 27 days ago •  $\pm 288k$  •  $\heartsuit 899$

WizardLM/WizardCoder-15B-V1.0  
Text Generation • Updated 3 days ago •  $\pm 12.5k$  •  $\heartsuit 332$

CompVis/stable-diffusion-v1-4  
Text-to-Image • Updated about 17 hours ago •  $\pm 448k$  •  $\heartsuit 5.72k$

stabilityai/stable-diffusion-2-1  
Text-to-Image • Updated about 17 hours ago •  $\pm 782k$  •  $\heartsuit 2.61k$

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## Join Hugging Face

Join the community of machine learners!

Email Address

Hint: Use your organization email to easily find and join your company/team org.

Password

Next

Already have an account? [Log in](#)

SSO is available for  [Enterprise](#) accounts.

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## Complete your profile

One last step to join the community

Username

Full name

Avatar (optional)

 GitHub username (optional)

Homepage (optional)

 Twitter username (optional)

AI & ML interests (optional)

☐ I have read and agree with the [Terms of Service](#) and the [Code of Conduct](#)

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Please check your email address for a confirmation link

[Resend confirmation email](#)

## Welcome

[Skip to feed →](#)

### Create a new model

From the website

### Hub documentation

Take a first look at the Hub features

### Programmatic access

Use the Hub's Python client library

## Getting started with our git and git-lfs interface

You can create a repository from the CLI (skip if you created a repo from the website)

```
$ pip install huggingface_hub
# You already have it if you installed transformers or datasets

$ huggingface-cli login
# Log in using a token from huggingface.co/settings/tokens
# Create a model or dataset repo from the CLI if needed
$ huggingface-cli repo create repo_name --type {model, dataset, space}
```

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# Overview of UI interface and Explore the Platform

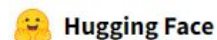
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# Interface - UI Overview

[Models](#)[Datasets](#)[Spaces](#)[Posts](#)[Docs](#)[Pricing](#)[+ New](#)

praneeth2323

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Organizations

[+ Create New](#)

Resources

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Following 0

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[WizardLM](#) · LLMs that follow complex instructions

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Here you can find pre-trained models, open source datasets, spaces created developers in the community

Trending last 7 days

All

[Models](#)[Datasets](#)[Spaces](#)

[xai-org/grok-1](#)

Text Generation · Updated 8 days ago · 1.71k

[ByteDance/AnimateDiff-Lightning](#)

Text-to-Video · Updated 7 days ago · 47.8k · 323

[stabilityai/sv3d](#)

Image-to-Video · Updated 8 days ago · 378

[mistralai/Mistral-7B-Instruct-v0.2](#)

Text Generation · Updated 3 da... · 1.94M · 1.39k

AI Comic Factory

5.25k

Leonardo AI Image Creator

429

8.69k

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# Hugging Face Models




- Hugging Face models are a models designed to understand and work with human language. They can read, write, translate, summarize, and do many other with text.
- Imagine having a library of pre-trained brains that understand language really well. That's what Hugging Face models are! They're already trained on tons of text from the internet, books, and articles, so they're really good at understanding and generating text.
- These models aren't just smart; they're top-of-the-line smart! They've been tested against all kinds of language tasks, like understanding what a sentence means, answering questions, or even writing stories. They often outperform other methods, so you know you're getting the best tools available.

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**Tasks**
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**Multimodal**
 [Image-Text-to-Text](#)
 [Visual Question Answering](#)
 [Document Question Answering](#)
**Computer Vision**
 [Depth Estimation](#)
 [Image Classification](#)
 [Object Detection](#)
 [Image Segmentation](#)
 [Text-to-Image](#)
 [Image-to-Text](#)
 [Image-to-Image](#)
 [Image-to-Video](#)
 [Unconditional Image Generation](#)
 [Video Classification](#)
 [Text-to-Video](#)
 [Zero-Shot Image Classification](#)
 [Mask Generation](#)
**Models** 568,780


[new](#) Full-text search



 **xai-org/grok-1**
 Text Generation • Updated 8 days ago • ❤️ 1.71k

 **ByteDance/AnimateDiff-Lightning**
 Text-to-Video • Updated 7 days ago • ⬇️ 47.8k • ❤️ 323

 **stabilityai/sv3d**
 Image-to-Video • Updated 8 days ago • ❤️ 378

 **mistralai/Mistral-7B-Instruct-v0.2**
 Text Generation • Updated 3 days ago • ⬇️ 1.94M • ❤️ 1.39k

 **google/gemma-7b**
 Text Generation • Updated 28 days ago • ⬇️ 223k • ❤️ 2.61k

 **meta-llama/Llama-2-7b-chat-hf**
 Text Generation • Updated 8 days ago • ⬇️ 1.32M • ❤️ 3.19k

# Hugging Face Datasets

- Hugging Face Datasets serves as a centralized repository containing a wide range of datasets crucial for training and evaluating machine learning models, particularly those focused on natural language processing (NLP). These datasets cover diverse tasks like text classification, sequence labeling, and language generation.
- Each dataset available through Hugging Face is curated and formatted to maintain consistent quality standards. This consistency ensures that researchers and practitioners can rely on the integrity of the data when training and testing machine learning models.

**Tasks** Sizes Sub-tasks Languages Licenses

Other

Multimodal

Visual Question Answering

Computer Vision

Depth Estimation Image Classification

Object Detection Image Segmentation

Text-to-Image Image-to-Text

Image-to-Image Image-to-Video

Unconditional Image Generation

Video Classification Text-to-Video

Zero-Shot Image Classification

Mask Generation

Zero-Shot Object Detection Text-to-3D

Image-to-3D Image Feature Extraction

Datasets 124,601

[new](#) Full-text search

Sort: Trending

hollyyfc/tidytuesday\_for\_python

Updated 4 days ago • 10 • 71

vikhyatk/lnqa

Viewer • Updated 6 days ago • 46

ShimizuYuki/Marvel\_network

Viewer • Updated 9 days ago • 127 • 61

LeoZhangzaolin/Graptoloidea-Specimens-Ima...

Viewer • Updated 7 days ago • 6 • 60

HuggingFaceTB/cosmopedia

Viewer • Updated about 14 hours ago • 8.52k • 370

xx103/NYC\_Motor\_Vehicle\_Collisions\_and\_We...

Updated 8 days ago • 109 • 52

Cohere/wikipedia-2023-11-embed-multilingu...

Viewer • Updated 5 days ago • 22 • 31

yh0701/FracAtlas\_dataset

Updated 26 days ago • 54 • 38

ro-h/regulatory\_comments

Updated 5 days ago • 77 • 41

dclayton/nba\_tracking\_data\_15\_16

Updated 7 days ago • 84 • 25

fka/awesome-chatgpt-prompts

Viewer • Updated Mar 7, 2023 • 5.35k • 4.86k

cdoswald/SPIDER

Updated 4 days ago • 146 • 19

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# Hugging Face Spaces

- Hugging Face Spaces offer a simple way to host ML demo apps directly on your profile or your organization's profile. This allows you to create your ML portfolio, showcase your projects at conferences or to stakeholders, and work collaboratively with other people in the ML ecosystem.
- Within Hugging Face Spaces, users can organize their machine learning projects effectively. This may include features for task assignment, project milestones, version control, and documentation, streamlining project management processes.

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# Spaces

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Feel Free to explore spaces


[new](#) Full-text search[↑↓ Sort: Trending](#)

☆ Spaces of the week 


Running on A10G  48

**Real Time Img2img Turbo**

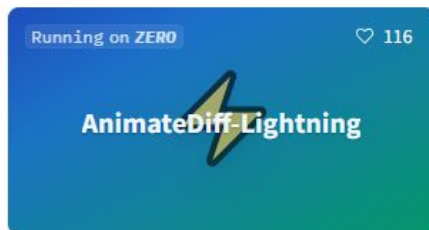



 radames

6 days ago

Running on ZERO  116

**Animated Lightning**



 ByteDance

7 days ago

Running on ZERO  64

**Llava Next**




 merve

about 13 hours ago


Running on A10G  110

**Img2img Turbo Sketch**

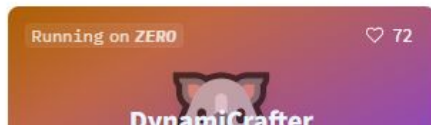



 gpamar

5 days ago

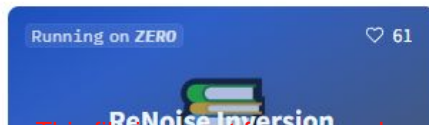
Running on ZERO  72


**DynamiCrafter**



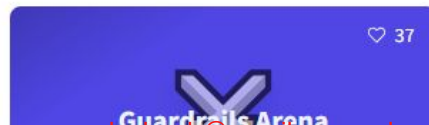
Running on ZERO  61


**ReNoise Inversion**



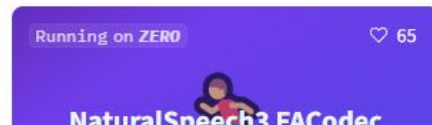
 37

**Guardrails Arena**



Running on ZERO  65


**NaturalSpeech3 FAcoder**



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## Playground v2.5

Run



Advanced options

### Examples

- neon holography crystal cat
- a cat eating a piece of cheese
- an astronaut riding a horse in space
- a cartoon of a boy playing with a tiger
- a cute robot artist painting on an easel, concept art
- a close up of a woman wearing a transparent, prismatic, elaborate nemeses headdress,

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Search for  
Playground v2.5 on  
spaces and pick the  
examples provided  
below to see how  
the model was  
generating images  
from user provided  
text



# How to create and access tokens

**Note:** These secret keys are confidential, we recommend you to not share the keys with anyone

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**kumar**


praneeth2323

Edit profile

Settings

 **AI & ML interests**

None yet

 **Organizations**

None yet

 **Models**

None yet

 **Datasets**

None yet

Profile

 praneeth2323

• Notifications

Inbox (0)

+ New Model

+ New Dataset

+ New Space

+ New Collection

Create organization

Settings

Sign Out





**kumar**

praneeth2323

[Profile](#)
[Account](#)
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[Organizations](#)
[Billing](#)
[Access Tokens](#)
[SSH and GPG Keys](#)
[Webhooks](#)
[Papers](#)
[Notifications](#)
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## Access Tokens

### User Access Tokens

Access tokens programmatically authenticate your identity to the Hugging Face Hub, allowing applications to perform specific actions specified by the scope of permissions granted. Visit [the documentation](#) to discover how to use them.

[New token](#)

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Webhooks

Papers

Notifications

Content Preferences

Connected Apps

Theme

## Access Tokens

### User Access Tokens

Access tokens

Face Hub, allow

scope of perm

use them.

New token

### Create a new access token



Name

Type

Write



Generate a token


**kumar**

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Profile

Account

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**Access Tokens**

SSH and GPG Keys

Webhooks

Papers

Notifications

Content Preferences

Connected Apps

Theme

## Access Tokens

### User Access Tokens

Access tokens programmatically authenticate your identity to the Hugging Face Hub, allowing applications to perform specific actions specified by the scope of permissions granted. Visit [the documentation](#) to discover how to use them.

mlops\_with\_python WRITE

Manage ▾

.....

Show 

New token

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# How to create spaces and add secretes

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## Spaces

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↑↓ Sort: Trending

☆ Spaces of the week 

 radames


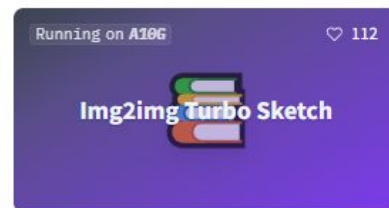
6 days ago

 ByteDance

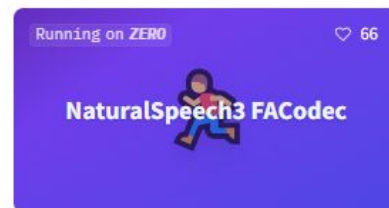
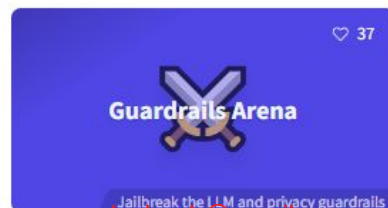
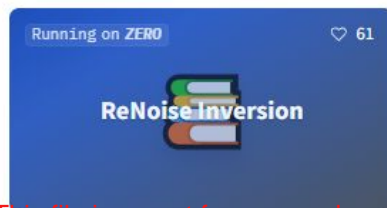
7 days ago

 meive

about 13 hours ago

 gpaimar

6 days ago



## Create a new Space

Spaces are Git repositories that host application code for Machine Learning demos.  
You can build Spaces with Python libraries like Streamlit or Gradio, or using Docker images.

Owner Space name

praneeth2323 / mlops\_with\_python

License

other

Select the Space SDK  
You can choose between Streamlit, Gradio and Static for your Space. Or [pick Docker](#) to host any other app.

Streamlit Gradio Docker 13 templates Static 3 templates

Space hardware Free

CPU basic · 2 vCPU · 16 GB · FREE

You can switch to a different hardware at any time in your Space settings.  
You will be billed for every minute of uptime on a paid hardware.

☒ **Public**  
Anyone on the internet can see this Space. Only you (personal Space) or members of your organization (organization Space) can commit.

☐ **Private**  
Only you (personal Space) or members of your organization (organization Space) can see and commit to this Space.

Create Space

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### Get started with your gradio Space!

Your new space has been created, follow these steps to get started (or read the full [documentation](#))

Start by cloning this repo by using:

HTTPS

SSH

Use an [access token](#) as git password/credential

```
# When prompted for a password, use an access token with write permissions.  
# Generate one from your settings: https://huggingface.co/settings/tokens  
git clone https://huggingface.co/spaces/praneeth2323/mlops_with_python
```

Create your Gradio app.py file:

```
import gradio as gr  
  
def greet(name):  
    return "Hello " + name + "!!"  
  
iface = gr.Interface(fn=greet, inputs="text", outputs="text")  
iface.launch()
```

Then commit and push:

```
$ git add app.py
```

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## Change Space visibility

Make private

This Space is currently **public**. Anyone on the internet can see this Space. Only you (personal Space) or members of your organization (organization Space) can commit.

## Variables and secrets

New variable

New secret

Variables Public

No variables

Secrets Private

No secrets

## Rename or transfer this space

All links to this space will automatically redirect to the new location, including git operations. However, to avoid confusion, we recommend updating any existing local clones to point to the new repository URL. To do so, you can use the following command:

```
git remote set-url origin {NEW_URL}
```

New owner

praneeth2323



New name

New space name

I understand, move this space

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**Name : HF\_TOKEN**

**Value: Copy the  
access token  
created in 21 slide  
and paste here and  
save it**

New secret

Name

HF\_TOKEN

Description (optional)

Description

Value (private)

~~hf\_token~~

Save Cancel

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# Next Steps - ?

## *That's what it is and*

Now, we have understand what is the hugging face platform, why we use it, for what purpose, how to create account, spaces and access the tokens

- In the upcoming weeks, we will gonna discuss and use Hugging face platform to build the entire MLOps pipeline
- See you soon in the python for machine learning session

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# Power Ahead!

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