





# TANTRIK

## Student User Manual

Ver 1.0

# Login






Sign In





Username:

Password:



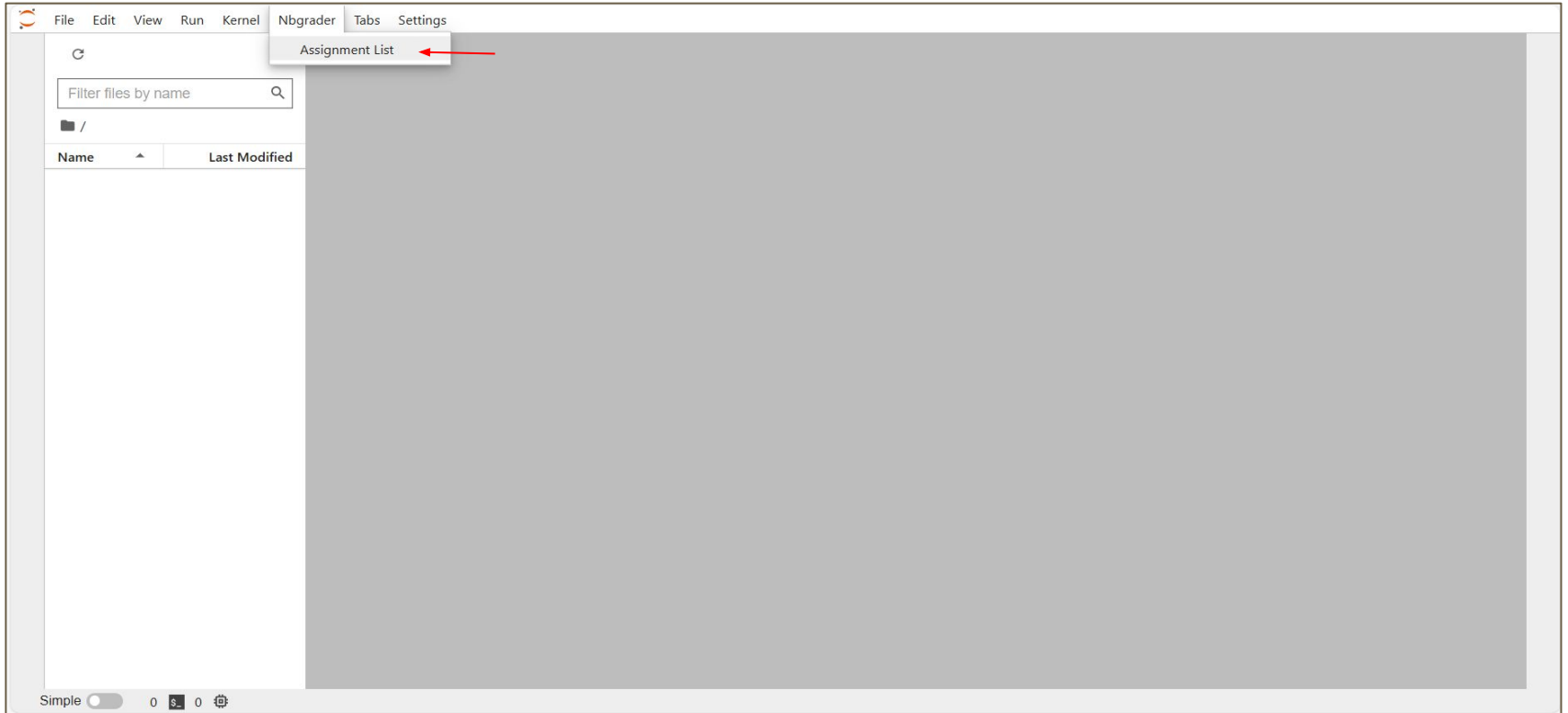
Sign In

[Tantrik Student User Guide](#)



# Dashboard

- **View Assignments:** Go to **Nbgrader** menu and select **Assignment List**.



## Download Assignments (Student Version):

- Select the course from the dropdown and click on **Fetch** button to view the assignments

The screenshot shows the Nbgrader interface with the 'Assignments' tab selected. The left sidebar contains a file browser with a search bar and a table with columns 'Name' and 'Last Modified'. The main panel displays the 'Assignments' view for the course 'genaidemo'. A red box highlights the course selection dropdown, which is currently set to 'genaidemo'. Another red box highlights the 'Fetch' button for the 'cnn-demo' assignment. The interface also shows sections for 'Released assignments' (listing 'cnn-demo' and 'transformer-demo'), 'Downloaded assignments' (stating 'There are no downloaded assignments.'), and 'Submitted assignments' (stating 'There are no submitted assignments.').

Assignments

Released, downloaded, and submitted assignments for course: genaidemo

Released assignments

cnn-demo	genaidemo	Fetch
transformer-demo	genaidemo	Fetch

Downloaded assignments

There are no downloaded assignments.

Submitted assignments

There are no submitted assignments.

## View Assignment Notebook file (.ipynb):

- From **Downloaded Assignments** section, select the **.ipynb** file from the list.

The screenshot shows the Nbgrader web interface. On the left is a file browser with a search bar and a list of files. The main panel on the right is titled 'Assignments' and shows a dropdown for the course 'genaidemo'. It lists three sections: 'Released assignments' (with 'transformer-demo'), 'Downloaded assignments' (with 'cnn-demo'), and 'Submitted assignments' (with a message 'There are no submitted assignments.'). A red arrow points to the file path '/home/jovyan/cnn-demo/cnn-demo.ipynb' in the 'Downloaded assignments' section.

Assignments		
Released, downloaded, and submitted assignments for course: genaidemo		
<b>Released assignments</b>		
transformer-demo	genaidemo	<button>Fetch</button>
<b>Downloaded assignments</b>		
cnn-demo	genaidemo	<button>Submit</button>
/home/jovyan/cnn-demo/cnn-demo.ipynb		<button>Validate</button>
<b>Submitted assignments</b>		
There are no submitted assignments.		

# Writing and Validating Code

- Open the .ipynb file, write code below **#YOUR CODE HERE** comment line.
- Remove the line **raise NotImplementedError()** before running the code.
- Run the code to check for correctness. Once sure, validate the code by clicking on **Validate** in toolbar.

File Edit View Run Kernel Nbgrader Tabs Settings

cnn-demo.ipynb

Code Validate

Python 3 (ipykernel)

```
[ ]: # make lists of dataset images with their full path
import glob

train_images = glob.glob(os.path.join(train_dir, "*.jpg"))
test_images = glob.glob(os.path.join(test_dir, "*.jpg"))

print(train_images[:3])
print(len(train_images))
print(test_images[:3])
print(len(test_images))
```

Split the labeled train data into training and validation sets

```
[ ]: from sklearn.model_selection import train_test_split

train_list, val_list = train_test_split(train_images, test_size=0.2)
```

Define a pytorch class for retrieving the images in the dataset

```
[ ]: # make a dataset class
class CatDogDataset(Dataset):

    # YOUR CODE HERE
    raise NotImplementedError()
```

Define transformations to normalize/augment the images

```
[ ]: # define transformations for the train, test and holdout images
train_transforms = transforms.Compose([
    transforms.RandomHorizontalFlip(p=0.5),
    transforms.RandomRotation(15),
    transforms.RandomResizedCrop(224, scale=(0.8,1.0),ratio=(1.0,1.0)),
    transforms.ToTensor(),
    transforms.Normalize([0.4914, 0.4822, 0.4465], [0.2023, 0.1994, 0.2010])
])
```

Simple 0 1 Python 3 (ipykernel) | Idle

Mode: Edit Ln 1, Col 23 cnn-demo.ipynb

Another method to validate your code (optional):

- You can also validate the assignment from the Assignments page. Launch **Assignments** page, and click **Validate**.

The screenshot shows the Tantrik 1.0 web interface. On the left is a file explorer with a search bar and a list of files including 'cnn-demo' (modified 11 minutes ago). The main panel is titled 'Assignments' and shows a dropdown for 'Released, downloaded, and submitted assignments for course: genaidemo'. Below this, there are three sections: 'Released assignments' with a 'Fetch' button, 'Downloaded assignments' with a 'Submit' button and a 'Validate' button (highlighted with a red box), and 'Submitted assignments' which states 'There are no submitted assignments.' The bottom status bar shows 'Simple' mode and a progress indicator.

## Submit code for Grading:

- After Successful **validation** you can submit the assignment for grading by clicking on **Submit** button.

The screenshot shows the Nbgrader web interface. On the left is a file explorer with a search bar and a list of files including 'cnn-demo'. The main area is titled 'Assignments' and shows a dropdown for 'course: genaidemo'. It lists 'Released assignments' (transformer-demo) and 'Downloaded assignments' (cnn-demo). The 'cnn-demo' entry has a 'Submit' button highlighted with a red rectangle. A 'Submitted assignments' section states 'There are no submitted assignments.' A modal dialog titled 'Validation Results' is centered, showing 'Success! Your notebook passes all the tests.' with an 'OK' button. The bottom status bar shows 'Simple' mode and a progress indicator.



## View Results of Grading:

- Assignments submitted for grading can be seen in **Submitted Assignments** list.
- Click on the **Fetch Feedback** button to view the grading results and feedback on the test cases.
- Click on **View Feedback** link, to see the **feedback assignment-name.html** in the folder

The screenshot shows the Nbgrader interface with the 'Assignments' tab selected. The left sidebar shows a file explorer with a 'cnn-demo' folder. The main area displays a table of assignments for the course 'genaidemo'.

Released assignments		
transformer-demo	genaidemo	<a href="#">Fetch</a>

Downloaded assignments		
<a href="#">cnn-demo</a>	genaidemo	<a href="#">Submit</a>

Submitted assignments		
cnn-demo	genaidemo	<a href="#">Fetch Feedback</a>
2024-08-02 06:21:34.626548		
2024-08-02 10:09:00.587573		
2024-08-02 10:28:47.514339		<a href="#">view feedback</a>

**NOTE:** The **view feedback** can only be seen when teacher evaluates the submitted assignment.

# Grading Results File

The screenshot displays the Nbgrader web interface. On the left, a sidebar shows a file browser with a search bar and a table of files. The main area shows the 'Assignments' tab with a list of assignments. The assignment 'cnn-demo (Score: 100.0 / 100.0)' is highlighted, showing a score of 100.0 / 100.0. Below this, a red box highlights the '1. Test cell (Score: 100.0 / 100.0)'.

The file browser sidebar shows a search bar and a table of files:

Name	Last Modified
cnn-demo....	an hour ago

The main area shows the 'Assignments' tab with a list of assignments:

- cnn-demo (Score: 100.0 / 100.0)
  - 1. Test cell (Score: 100.0 / 100.0)

The 'Test cell' content is displayed below, showing the code for 'Import libraries' and 'Load the data'.

### Import libraries

```
In [1]:
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
import os
from PIL import Image

import torch
import torch.nn as nn
import torchvision
from torchvision import transforms
from torch.utils.data import Dataset, DataLoader
import torch.nn.functional as F
```

### Load the data

```
In [2]:
import os
# save the directories of the datasets to variables
train_dir = "/shareddata/train"
test_dir = "/shareddata/train"
```