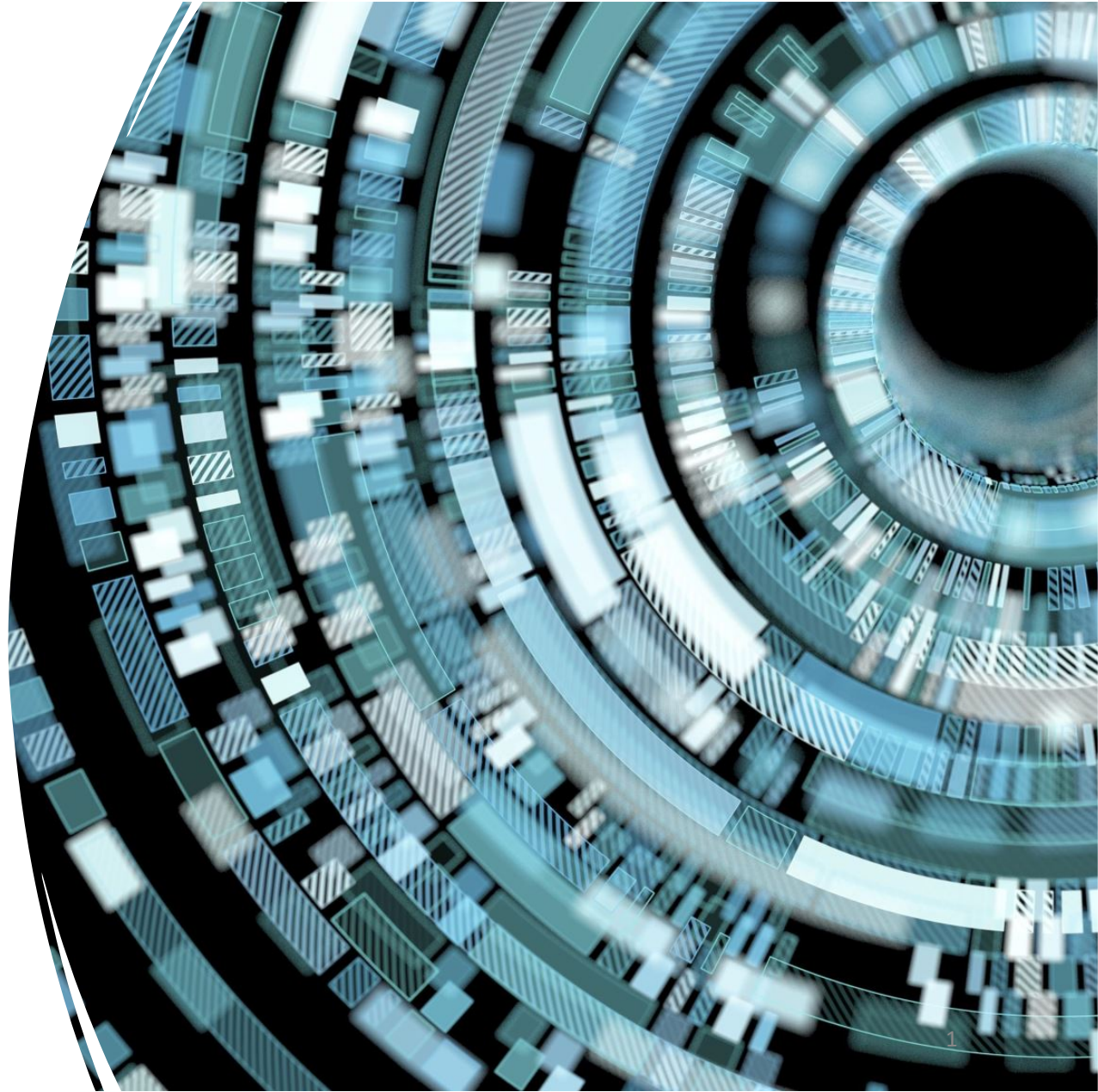


# Deep Learning and Vision

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Leaderboard Instruction

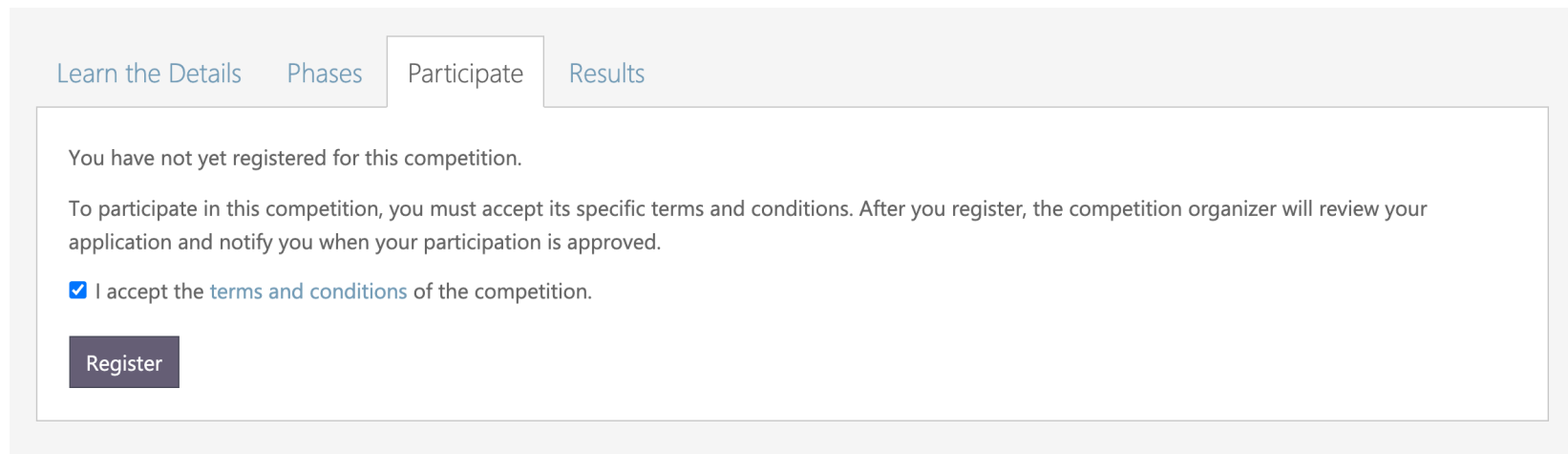


# Get Started

- Step 1: Sign up for codalab
  - <https://competitions.codalab.org/>
  - Your account ID must be “smu\_cs701\_21term1\_Tx” where  $x \in [1, 2, \dots, 10]$  is your team number
  - Only one account per team

# Get Started

- Step 2: register for our competition
  - click the competition url: [https://competitions.codalab.org/competitions/35300?secret\\_key=a386b1e7-95a1-41ae-889f-30b302deeeed](https://competitions.codalab.org/competitions/35300?secret_key=a386b1e7-95a1-41ae-889f-30b302deeeed)
  - register for the competition
  - we will approve your request asap



The screenshot shows a web interface for a competition. At the top, there are four tabs: 'Learn the Details', 'Phases', 'Participate', and 'Results'. The 'Participate' tab is currently selected. Below the tabs, a message states: 'You have not yet registered for this competition.' This is followed by a paragraph explaining that participation requires accepting the competition's terms and conditions, and that the organizer will review the application and notify the user upon approval. Below this text is a checkbox that is checked, with the label 'I accept the terms and conditions of the competition.' At the bottom left of the form area is a dark purple button labeled 'Register'.

# Get Started

- Step 3: download data
  - you can download the data after we approve your request asap
  - click 'Participate' - 'Files'

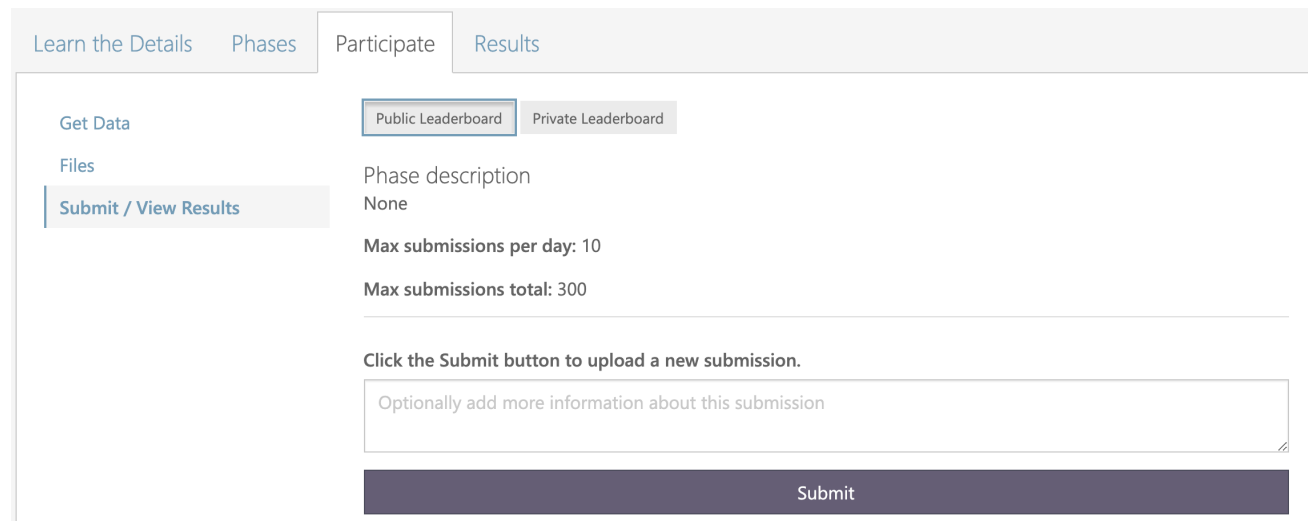
[Learn the Details](#) [Phases](#) [Participate](#) [Results](#)

[Get Data](#)  
[Files](#)  
[Submit / View Results](#)

Download	Size (mb)	Phase
Public Data	845.224	#1 Public Leaderboard

# Get Started

- Step 4: Submit your result
  - click 'Participate' - 'Submit/View Results'
  - click 'Submit' button and then upload your submission
  - Please strictly follow the submission format (in the following slides)



The screenshot displays a web interface for a competition. At the top, there are four tabs: 'Learn the Details', 'Phases', 'Participate', and 'Results'. The 'Participate' tab is active. On the left side, there is a vertical menu with four items: 'Get Data', 'Files', 'Submit / View Results' (which is highlighted), and 'Results'. The main content area shows two buttons at the top: 'Public Leaderboard' (selected) and 'Private Leaderboard'. Below these, the 'Phase description' is 'None'. It also states 'Max submissions per day: 10' and 'Max submissions total: 300'. A message says 'Click the Submit button to upload a new submission.' followed by a text input field with the placeholder 'Optionally add more information about this submission'. At the bottom, there is a large dark blue 'Submit' button.

# Submission format

- You need to upload a x.zip file
  - the name of zip file doesn't matter
  - For example:



submission.zip

# Submission format

- unzip the zip file, we will get a folder named 'submission'
  - the folder name after unzip must be 'submission'



submission

# Submission format

- There are four parts in the 'submission' folder
  - Part 1: label.txt file
  - Part 2: info.txt file
  - Part 3: pseudo\_label folder
  - Part 4: segmentation folder



info.txt



label.txt



pseudo\_label

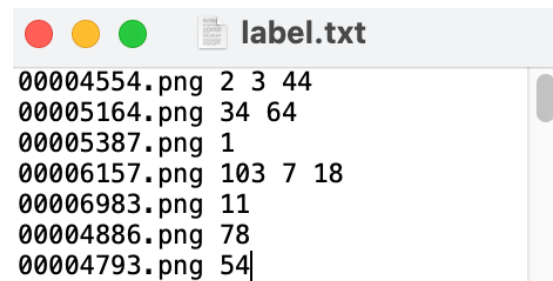


segmentation



# Submission format

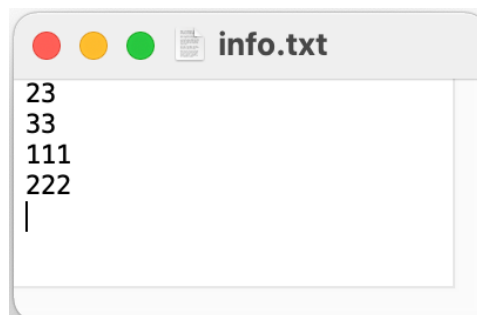
- Part 1 : label.txt file (submit in both phase1 and phase 2)
  - label.txt file
  - Space separated image name and predicted class(es) on test set (refer to the class label map on eLearn).
  - 505 lines for phase1 and 1000 lines for phase2



```
00004554.png 2 3 44
00005164.png 34 64
00005387.png 1
00006157.png 103 7 18
00006983.png 11
00004886.png 78
00004793.png 54|
```

# Submission format

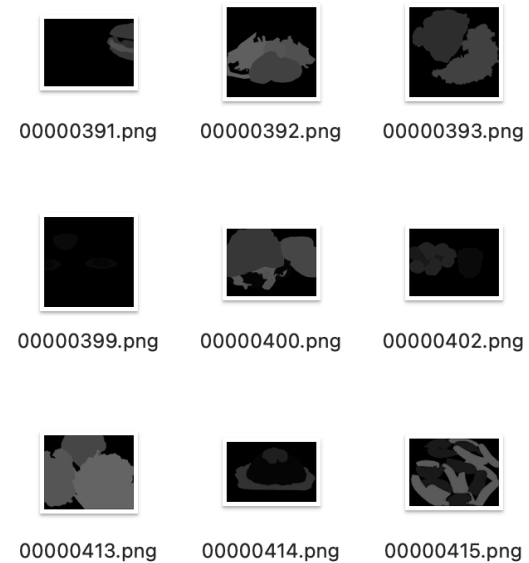
- Part 2: info.txt file (only submit in Phase 1)
  - four lines in the info.txt
    - 1st line: training time of classification models (hours)
    - 2nd line: training time of segmentation models (hours)
    - 3rd line: parameters size of classification models (MB)
    - 4th line: parameters size of segmentation models (MB)



# Submission format

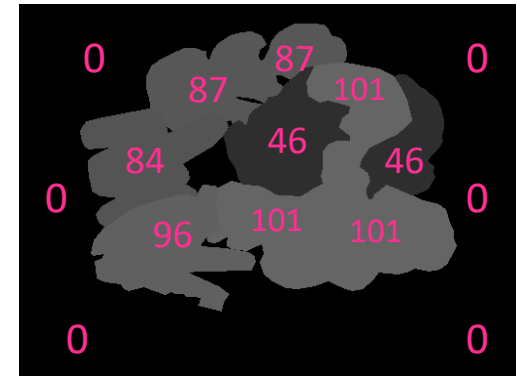
- Part 3: pseudo\_label folder (only submit in Phase 1)

- pseudo\_label for training data
- the same size as RGB image
- 4005 files in total



# Submission format

- Part 3: pseudo\_label folder (only submit in Phase 1)
  - pseudo\_label format
    - One channel
    - Predicted class label for each pixel
      - 0 means background
      - 1-103 mean food (classes are same as part 1)
    - It is better to save in np.uint8 format



# Submission format

- Part 4: segmentation folder (submit both phase1 and phase 2)
  - segmentation result for test data
  - same format as part 3
  - 505 files for phase1, 1000 for phase 2



00004404.png



00004405.png



00004419.png



00004441.png



00004442.png



00004443.png



00004462.png



00004469.png



00004471.png

# Submission format

- In info.txt, please fill in the actual training time and parameters size, it does not count for marks, but you cannot exceed the limit.
- You can submit part of the result for an evaluation. For example: only submit labels.txt.
- Please strictly follow the submission format, or you will get a failed submission. All the file name and folder name must be the same as in the example.
- A sample submission: [https://drive.google.com/file/d/1lo8B2ckl2ATPAJ\\_Aame7tliFXosYPyl9/view?usp=sharing](https://drive.google.com/file/d/1lo8B2ckl2ATPAJ_Aame7tliFXosYPyl9/view?usp=sharing)

# Reference

- Papers

- CAM: Learning deep features for discriminative localization. CVPR 2016.
- WSSS: Weakly Supervised Learning of Instance Segmentation with Inter-pixel Relations. CVPR 2019.
- WSSS: Anti-Adversarially Manipulated Attributions for Weakly and Semi-Supervised Semantic Segmentation. CVPR 2021.
- Semantic Segmentation: Deeplab: Semantic image segmentation with deep convolutional nets, atrous convolution, and fully connected crfs. IEEE TPAMI, 2017.

- Github repo:

- DeepLab: <https://github.com/kazuto1011/deeplab-pytorch>.
- CAM: <https://github.com/frgfm/torch-cam>