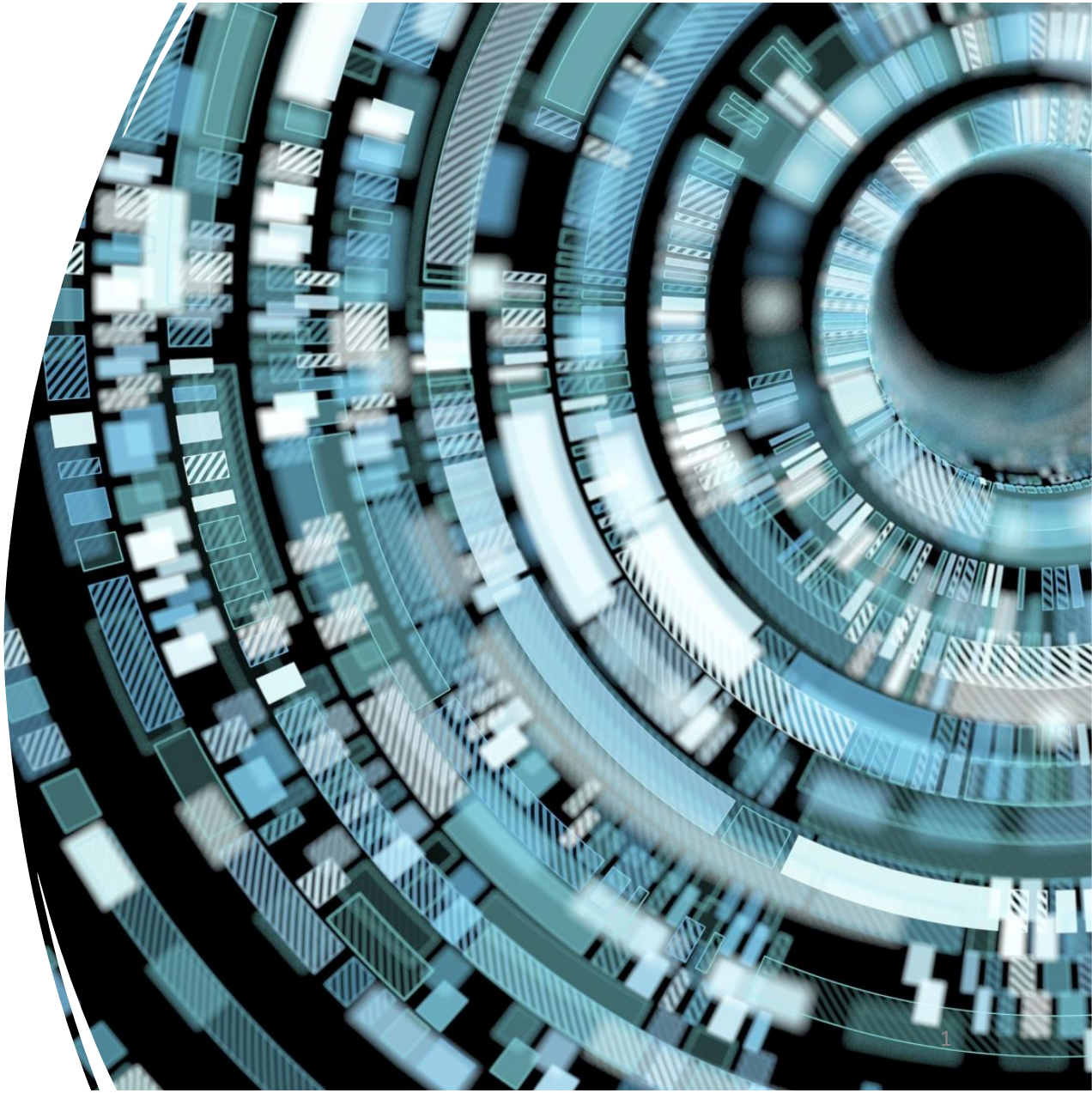
Deep Learning and Vision

Leaderboard Instruction

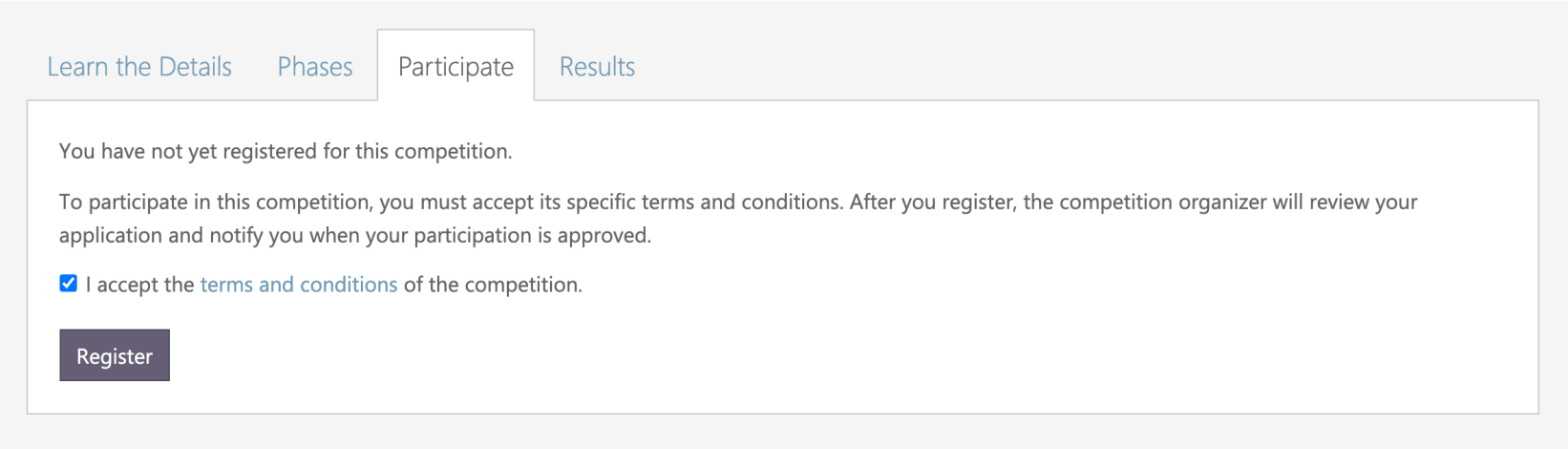


Get Started

- Step 1: Sign up for codalab
  - https://competitions.codalab.org/
  - Your account ID must be “smu_cs701_21term1_T*x*" where $x \in [1,2,\ldots,10]$ is your team number
  - Only one account per team

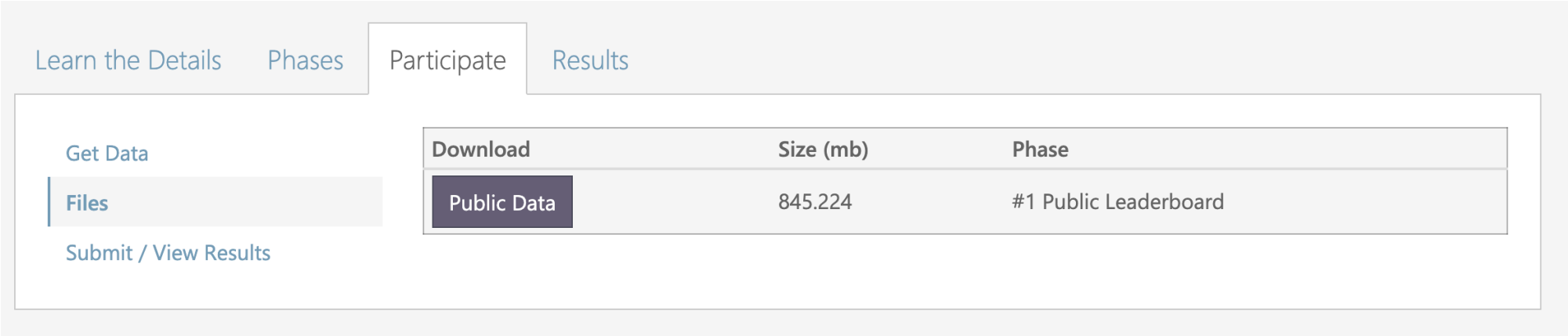
Get Started

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



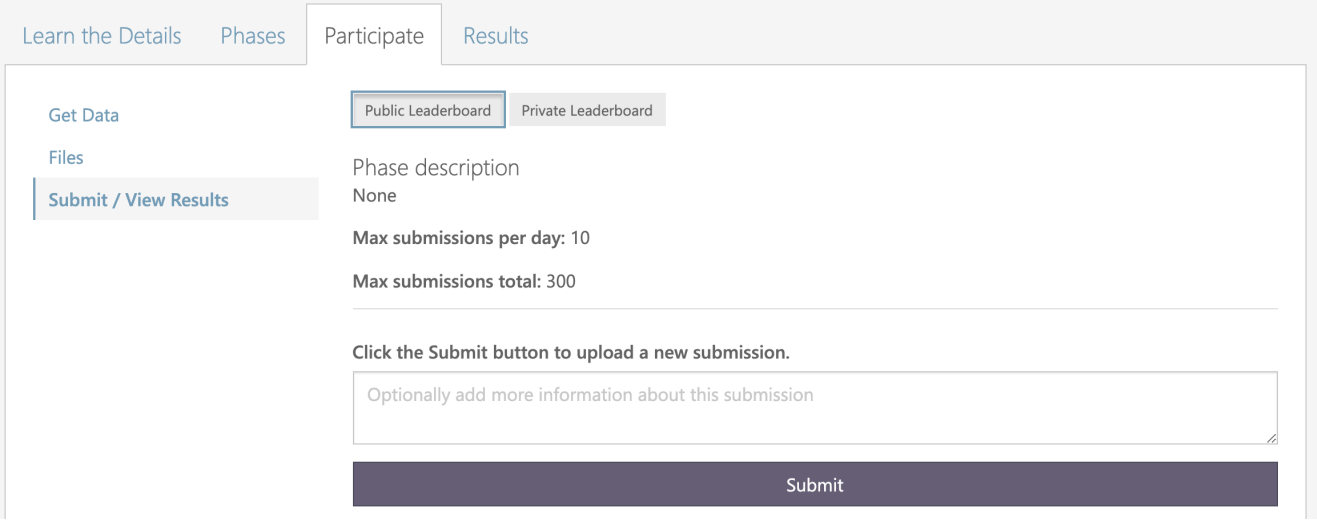
Get Started

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



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)



Submission format

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

submission.zip

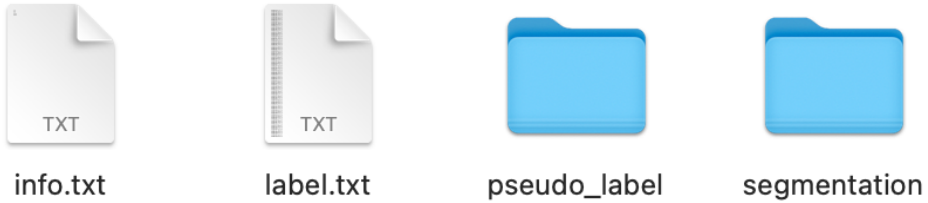
Submission format

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

submission

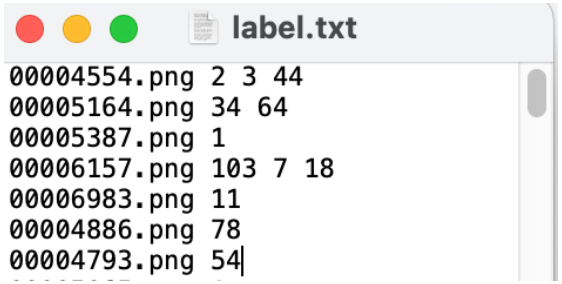
Submission format

- 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



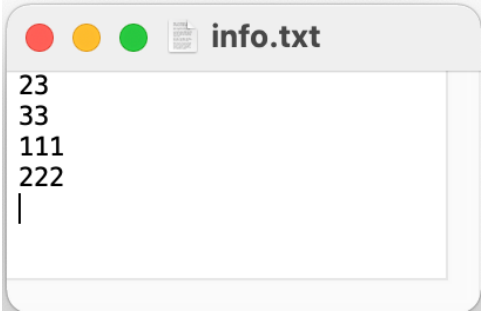
Submission format

- 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



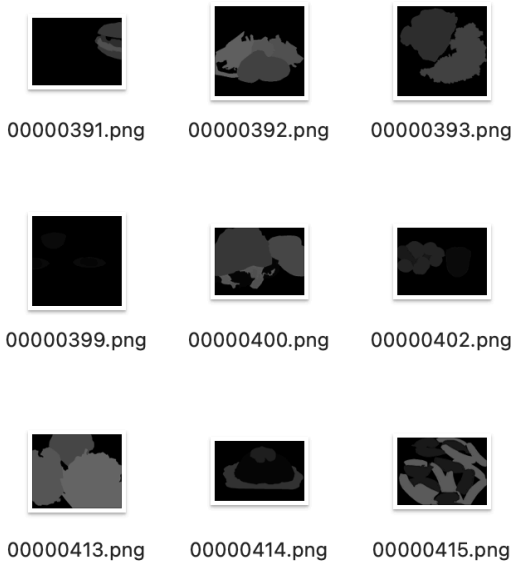
Submission format

- 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)



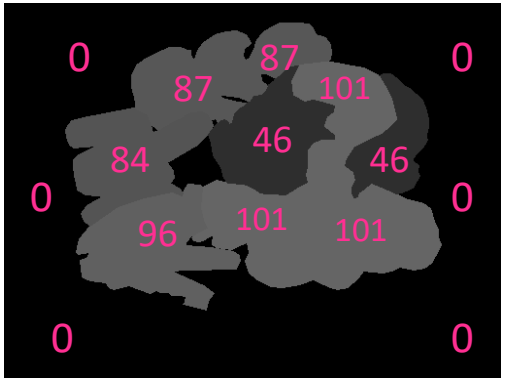
Submission format

- 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



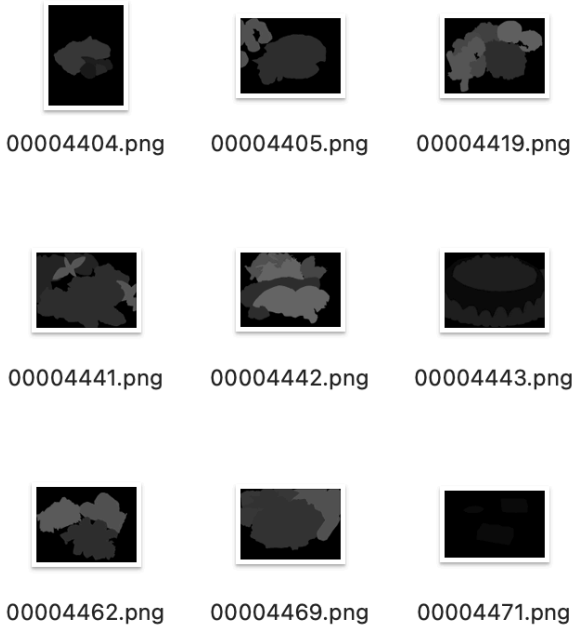
Submission format

- 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



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_Aame7tIiFXosYPyI9/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