

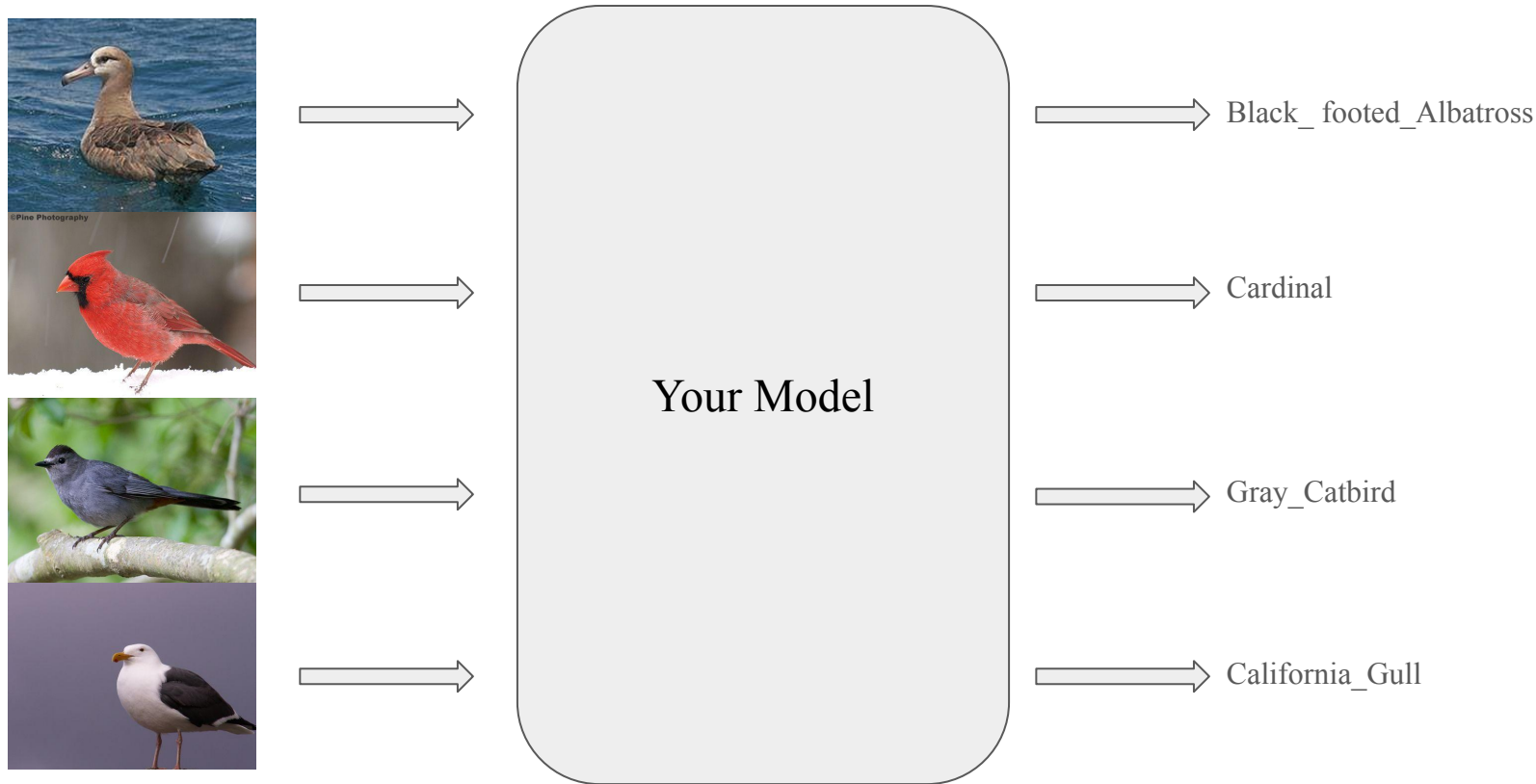
# Introduction to Machine Learning Final Project Announcement

Presenter: TA Jui-Che (Ben)  
Lastest update: 2023/12/05 13:00

# Final Project

- Deadline: 23:59, Jan. 5th (Fri), 2024
- Performance (60%)
  - Participate in a **Kaggle competition** and optimize your model's performance to achieve the highest possible results.
- Report (40%)
  - Provide a detailed description of your research process and implementation in the report.

# Bird Recognition Competition



# Tips

- **Fine-Grained Image Classification**

- A task in computer vision where the goal is to classify images into subcategories within a larger category.

- You can find numerous resources on the internet!

# Join the Competition

- [Link](#)

Community Prediction Competition · Private

## NYCU\_2023ML\_Final\_Project

Final Project - bird recognition

18 days to go

[Overview](#) [Data](#) [Discussion](#) [Leaderboard](#) [Rules](#)

Join Competition

### Overview

#

**Start**  
17 hours ago

**Close**  
18 days to go

The timeline shows a progress bar from Start to Close.

### Description

Final Project - bird recognition

### Evaluation

The evaluation metric for this competition is CategorizationAccuracy. The CategorizationAccuracy, also known as accuracy, commonly used in classification.

**Competition Host**  
Jia072

**Prizes & Awards**  
Kudos  
Does not award Points or Medals

**Participation**  
0 Competitors  
0 Teams  
0 Entries

**Table of Contents**

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# Download the Dataset

Community Prediction Competition · Private

## NYCU\_2023ML\_Final\_Project

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Overview

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Submissions

Submit Predictions

...

Dataset Description

#

Files

11789 files

Size

368.64 MB

Type

jpg, csv

License

[Subject to Competition Rules](#)

data (2 directories, 1 files)

test

2000 files

train

200 directories

sample\_submission.csv

88.01 kB

Data Explorer

368.64 MB

data

test

train

sample\_submission.csv

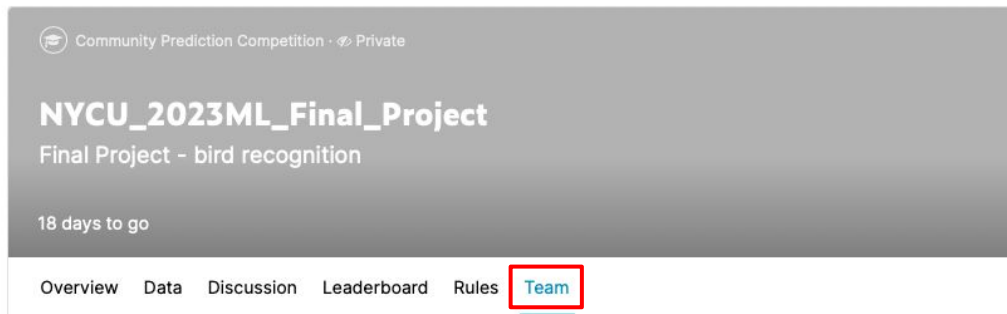
Summary

11.8k files

6

# Set the Team Name

- You must set your team name as your **student ID**.



## Your Team

Everyone that competes in a Competition does so as a team - even if you're competing by yourself. [Learn more.](#)

### General

TEAM NAME

311551103

This name will appear on your team's leaderboard position.

# Competition Rules

- You are allowed to use any open-source resources/libraries but you must specify them in the report.
  - model architecture (ex: ResNet, ViT, etc. )
  - pre-trained weights (ex: ImageNet)
- **The only rule is that you have to train (finetune) your model by yourself!**
  - Do not use model weights which are trained for image fine-grained classification (bird recognition).



# Framework

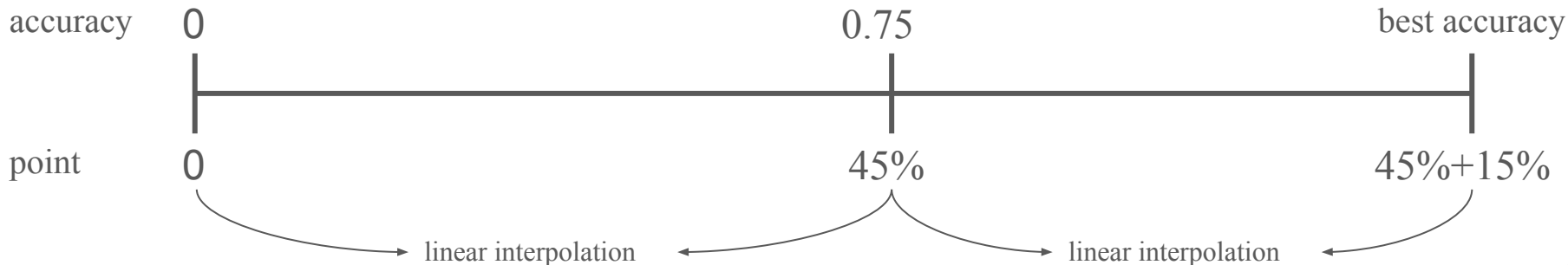
- [PyTorch](#) ([Quick Start](#))
- [Keras](#)
- [Tensorflow](#)
- others

# Environment

- Python version: 3.8 or newer
- If you have a GPU:
  - [Conda](#)
  - [Miniconda](#)
  - [virtualenv](#)
- If you don't have a GPU:
  - [Google Colab](#)

# Grading Criteria – Performance (60%)

- Public leaderboard
  - For your reference
- Private leaderboard
  - (45%) Baseline: **accuracy  $\geq 0.75$**
  - (15%) Compete with your classmates



# Grading Criteria – Report (40%)

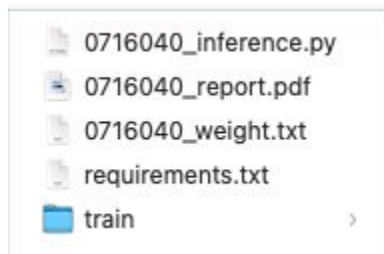
- Environment details (5%)
  - Python version
  - Framework
  - Hardware
- Implementation details (15%)
  - Model architecture
  - Hyperparameters
  - Training strategy
- Experimental results (15%)
  - Evaluation metrics
  - Learning curve
  - [Ablation Study](#)
- Bonus (5%)
  - Such as comparisons, clear plots, methods/papers review and discussion, etc.

# Submission

- Zip all of the following files/directories into `<STUDENT_ID>_final.zip` and submit it.
  - Training code
    - Place all of your training code in the `./training/` directory.
  - Inference code
    - `<STUDENT_ID>_inference.ipynb/.py`
  - Report
    - `<STUDENT_ID>_report.pdf`
  - Model weight
    - `<STUDENT ID>_weight.txt`
      - Provide a cloud drive link to your model weights & ensure access permissions are granted.
  - Environmental setting
    - `requirements.txt` (if you are using .py files)

# Submission

```
zip -r 0716040_final.zip train 0716040_inference.py 0716040_report.pdf 0716040_weight.txt requirements.txt  
adding: train/ (stored 0%)  
adding: 0716040_inference.py (stored 0%)  
adding: 0716040_report.pdf (stored 0%)  
adding: 0716040_weight.txt (stored 0%)  
adding: requirements.txt (stored 0%)
```



# Kaggle Submission Reproduction

- Your inference file should be able to reproduce your kaggle submission.
- You will load the model in your inference file (with the model weight you provide) and then generate your kaggle submission file.
- For python file (inference.py)
  - It will be checked on our lab's servers. (NVidia 2080Ti, cuda 11.3)
  - Please provide a **requirements.txt** file which can help us quickly rebuild your environment and accurately reproduce your results. (see [tutorial](#))
- For jupyter notebook file (inference.ipynb)
  - It will be checked on [Google Colab](#).
  - Please include the necessary **pip install instructions** in the first cell.

# Notes

- Kaggle Submission Reproduction Failure
  - No points will be given for your performance part (60%).
- Plagiarism
  - No points will be given for the entire assignment.
- Late policy
  - There is **no late submission** policy for the final project. No points will be given if you submit your final project late.



# Have Fun

