

EPIC Kitchens 100 Dataset

EPIC-Kitchens-100 is the largest dataset in first-person (egocentric) vision; itself an extension of the EPIC-Kitchens-55 dataset.

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Citing

When using the dataset, kindly reference:

TBA

Dataset Details

The EPIC-Kitchens-100 dataset is an extension of the EPIC-Kitchens-55 dataset. Videos are distinguished as follows:

- PXX_YY.MP4 videos originate from EPIC-Kitchens-55.
- PXX_1YY.MP4 videos originate from the extension collected for EPIC-Kitchens-100 (thus represent new videos).

The dataset currently has 6 active benchmarks:

- Action Recognition
- Weakly Supervised Action Recognition
- Action Detection
- Action Anticipation
- Unsupervised Domain Adaptation
- Action Retrieval

We provide csv files for the train/val/test sets of each benchmark detailed below for ease of use.

Ground truth is provided for action segments as action/verb/noun labels along with the start and end times of the segment.

Quick Start

Here you can download the annotation files for all of the challenges. For more information on each challenge, please see the paper [here](#). Download scripts are provided for the videos, RGB Frames and Flow frames [here](#).

Action Recognition Challenge

Download the Action Recognition train/val/test files.

Weakly Supervised Action Recognition Challenge

This challenge uses the Action Recognition files, download the train/val/test files.

Action Detection Challenge

This challenge uses the Action Recognition files, download the train/val/test files.

Action Anticipation Challenge

This challenge uses the Action Recognition files, download the train/val/test files.

Unsupervised Domain Adaptation Challenge

Download the Unsupervised Domain Adaptation source train/target train/target test files.

Action Retrieval Challenge

Download the Action Retrieval train/test files.

Important Files

We direct the reader to RDSF for the videos and RGB/Flow frames. For ease of use, download scripts are provided (see file_downloads for more details). We provide html and pdf alternatives to this README which are auto-generated.

- README.md (this file)
- README.pdf
- README.html
- license.txt
- EPIC_100_train.csv (info) (Pickle)
- EPIC_100_val.csv (info) (Pickle)
- EPIC_100_test.csv (info) (Pickle)

Additional Files

- EPIC_100_UDA_source_train (info) (Pickle)
- EPIC_100_UDA_target_train (info) (Pickle)
- EPIC_100_UDA_target_test (info) (Pickle)
- EPIC_100_retrieval_train (info) (Pickle)
- EPIC_100_retrieval_test (info) (Pickle)

File Structure

EPIC__100__train.csv

This CSV file contains the action annotations for the training set and contains 15 columns:

Column Name	Type	Example	Description
narration_id	string	P01_01_0	Unique ID for the segment which includes participant ID and video ID.
participant_id	int	P01	ID of the participant (unique per participant).
video_id	string	P01_01	ID of the video where the segment originated from (unique per video).
narration_timestamp	string	00:00:01.089	Timestamp of when the original narration was recorded in HH:mm:ss.SSS.
start_timestamp	string	00:00:00.14	Start time in HH:mm:ss.SSS of the action segment.
stop_timestamp	string	00:00:03.37	End time in HH:mm:ss.SSS of the action segment.
start_frame	int	8	Start frame of the action.
stop_frame	int	202	End frame of the action.
narration	string	open door	Transcribed description of the English narration provided by the participant.
verb	string	open	Parsed verb from the narration.
verb_class	int	3	Numeric ID of the verb's class.
noun	string	door	First parsed noun from the narration.
noun_class	int	3	Numeric ID of the first noun's class.
all_nouns	list of string (1 or more)	[door]	List of all parsed nouns within the narration.
all_noun_classes	list of int (1 or more)	[3]	Numeric ID of all of the parsed noun's classes.

Additional Information

File Downloads

Due to the size of the dataset we provide scripts for downloading parts of the dataset:

<!-- TODO: update this with correct information once the download scripts have been implemented, remember to explain that EPIC-Kitchens-55 and EPIC-Kitchens-100 are two different collections on RDSF. --!>

- videos (GB)
- frames (GB)
 - rgb-frames (GB)
 - flow-frames (GB)

Note: These scripts will work for Linux and Mac. For Windows users a bash installation should work.

These scripts replicate the folder structure of the dataset release on RDSF, found [here](#).

If you wish to download part of the dataset, instructions can be found [here](#).

Differences to EPIC-Kitchen-100

Whilst videos from EPIC-Kitchens-55 are used within EPIC-Kitchens-100 some of the annotations have been modified to improve the quality of the annotations. Additionally, with EPIC-Kitchens-100, the verb/noun classes have been updated to cover the annotations from the new videos. Because of this, the annotations from EPIC-Kitchens-55 cannot be used for EPIC-Kitchens-100.

Pickle Files

We also provide pickle files for all of the main train/val/test csvs for ease of use. These files require python 3.5+ and pandas 1.0.0+ to read. The pickle files are automatically tagged with the commit hash and version for version control purposes which can be found as follows in python:

```
>>> import pandas as pd
>>> train = pd.read_pickle('EPIC_100_train.pkl')
>>> train._metadata
{'commit_hash': 'ce7a0fb', 'version_number': '0.1'}
```

showing that this version of the EPIC_100_train.pkl came from commit hash ce7a0fb and version number 0.1.

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Changelog

Please see the release history for the changelog.