

Package: ovmlpy (via r-universe)

August 15, 2024

Title Machine Learning Tools for Volleyball

Version 0.1.5

Description Image and video machine learning tools, for application to volleyball analytics.

Depends R (>= 3.3.0)

URL <https://ovmlpy.openvolley.org>,
<https://github.com/openvolley/ovmlpy>

BugReports <https://github.com/openvolley/ovmlpy/issues>

Imports assertthat, av, magick, magrittr, ovml.common (>= 0.0.5), rappdirs, reticulate

Suggests testthat

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Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.1.2

Remotes openvolley/ovml.common

Repository <https://openvolley.r-universe.dev>

RemoteUrl <https://github.com/openvolley/ovmlpy>

RemoteRef HEAD

RemoteSha 1dbf7191f226fdf8eacea13d7c22d7f8ddea2682

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ovmlpy	ovmlpy
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Description

Image and video machine learning tools, for application to volleyball analytics.

ovml_yolo	<i>Construct YOLO network</i>
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Description

Models are implemented in Python and accessed via reticulate.

Usage

```
ovml_yolo(version = "7", device = 0, weights_file = "auto", ...)
```

Arguments

version	integer or string: one of <ul style="list-style-type: none"> • 7 or "7-tiny" : YOLO v7 or v7-tiny
device	string or numeric: "cpu" or 0, 1, 2 etc for GPU devices. Defaults to 0 but will silently fall back to "cpu" if torch reports that CUDA is not available
weights_file	string: either the path to the weights file that already exists on your system or "auto". If "auto", the weights file will be downloaded if necessary and stored in the directory given by <code>ovml_cache_dir()</code>
...	: currently ignored

Value

A YOLO network object

References

<https://github.com/WongKinYiu/yolov7>

Examples

```
## Not run:
dn <- ovml_yolo()
img <- ovml_example_image()
res <- ovml_yolo_detect(dn, img)
ovml_ggplot(img, res)

## End(Not run)
```

`ovml_yolo7_python_setup`*Install system requirements for using YOLO v7 via Python*

Description

Python and its required packages are installed into a virtual environment. `ovml_yolo7_python_envname()` returns the name of the virtual environment used, and `ovml_yolo7_python_envpath()` its path on the file system.

Usage`ovml_yolo7_python_setup()``ovml_yolo7_python_envname()``ovml_yolo7_python_envpath()`**Value**

TRUE (invisibly) on success

`ovml_yolo_detect`*Detect objects in image using a YOLO network*

Description

Works on a single input image only, at the moment.

Usage

```
ovml_yolo_detect(  
  net,  
  image_file,  
  conf = 0.25,  
  nms_conf = 0.45,  
  classes,  
  as,  
  ...  
)
```

Arguments

net	yolo: as returned by ovml_yolo()
image_file	character: path to one or more image files, or a single video file (mp4, m4v, or mov extension)
conf	scalar: confidence level
nms_conf	scalar: non-max suppression confidence level
classes	character: vector of class names, only detections of these classes will be returned
as	string: for object detection networks, "boxes" (default and only option); for pose detection "segments" (default) or "keypoints"
...	: currently ignored

Value

A data.frame with columns "image_number", "image_file", "class", "score", "xmin", "xmax", "ymin", "ymax", "frame"

See Also

[ovml_yolo\(\)](#)

Examples

```
## Not run:
dn <- ovml_yolo()
img <- ovml_example_image()
res <- ovml_yolo_detect(dn, img)
ovml_ggplot(img, res)

## End(Not run)
```

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