OpenColorIO Configuration for ACES Documentation

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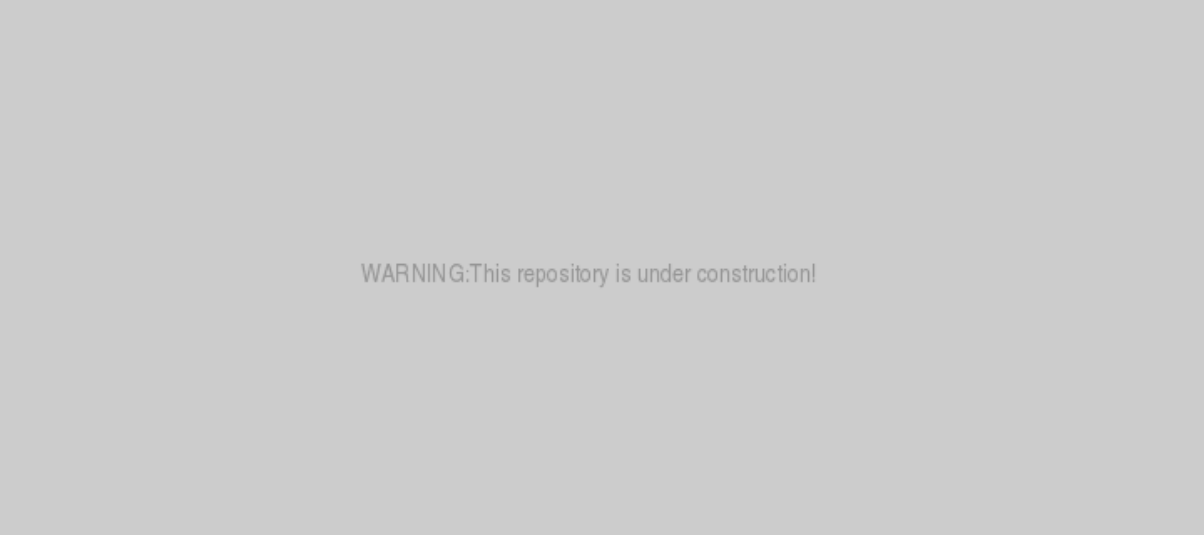

The OpenColorIO Configuration for ACES is an open-source Python package implementing support for the generation of the *OCIO* configurations for the Academy Color Encoding System (ACES).

It is freely available under the New BSD License terms.

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CHAPTER

ONE

1.1 FEATURES

The following features are available:

- Automatic *OCIO* **Reference** configuration generation for *aces-dev CTL* reference implementation.
- Configurable generator producing the *OCIO* **Studio** configuration.

CHAPTER

TWO

1.2 INSTALLATION

2.1 1.2.1 Docker

Installing the dependencies for the previous config generator was not a trivial task. For ease of use an aswf-docker based container is now available.

Creating the container from the Dockerfile is done as follows:

```
docker build -t aswf/opencolorio-config-aces:latest .
```

or alternatively, if the dependencies described in the next section are satisfied:

```
invoke docker build
```

Then, to run *bash* in the container:

```
docker run -it -v ${PWD}:/home/aswf/OpenColorIO-Config-ACES aswf/opencolorio-config-aces:latest /
↪bin/bash
```

2.2 1.2.2 Pypi

The **OpenColorIO Configuration for ACES** package requires various dependencies in order to run and be able to generate the *OCIO* configurations:

2.2.1 1.2.2.1 Primary Dependencies

- python>=3.7
- networkx
- OpenColorIO

2.2.2 1.2.2.2 Plotting Dependencies

- graphviz
- pygraphviz

2.2.3 1.2.2.3 Development Dependencies

- coverage
- coveralls
- flake8
- invoke
- nose
- pre-commit
- pytest
- restructuredtext-lint
- sphinx
- sphinx-rtd-theme
- twine
- yapf==0.23.0

Once the dependencies are satisfied, the **OpenColorIO Configuration for ACES** package can be installed from the Python Package Index by issuing this command in a shell:

```
pip install --user opencolorio-config-aces
```

CHAPTER

THREE

1.3 USAGE

3.1 1.3.1 Tasks

Various tasks are currently exposed via invoke.

This is currently the recommended way to build the configuration until a dedicated CLI is provided.

Listing the tasks is done as follows:

```
invoke --list
```

Assuming the dependencies are satisfied, the task to build the reference configuration is:

```
invoke build-reference-config
```

Alternatively, with the docker container built:

```
invoke docker-run-build-reference-config
```

3.2 1.3.2 API

The main reference for OpenColorIO Configuration for ACES is the manual.

3.2.1 OpenColorIO Configuration for ACES - Manual

Reference

OpenColorIO Configuration for ACES

Generation

- *Config Generation Common Objects*
- *Reference Configuration*
  - aces-dev *Discovery*
  - aces-dev *Conversion Graph*
  - aces-dev *Reference Config Generator*

Config Generation Common Objects

opencolorio_config_aces

colorspace_factory(name[, family, encoding, ...])	*OpenColorIO* colorspace factory.
view_transform_factory(name[, family, ...])	*OpenColorIO* view transform factory.
ConfigData(profile_version, description, ...)	Defines the data container for an *OpenColorIO* config.
validate_config(config)	Validates given *OpenColorIO* config.
generate_config(data[, config_name, validate])	Generates the *OpenColorIO* config from given data.

opencolorio_config_aces.colorspace_factory

opencolorio_config_aces.**colorspace_factory**(*name*, *family=None*, *encoding=None*, *categories=None*, *description=None*, *equality_group=None*, *bit_depth=None*, *allocation=None*, *allocation_vars=None*, *to_reference=None*, *from_reference=None*, *is_data=None*, *reference_space=None*, *base_colorspace=None*)

OpenColorIO colorspace factory.

Parameters

- **name** (unicode) – *OpenColorIO* colorspace name.
- **family** (unicode, optional) – *OpenColorIO* colorspace family.
- **encoding** (unicode, optional) – *OpenColorIO* colorspace encoding.
- **categories** (unicode or array_like, optional) – *OpenColorIO* colorspace categories.
- **description** (unicode, optional) – *OpenColorIO* colorspace description.
- **equality_group** (unicode, optional) – *OpenColorIO* colorspace equality_group.
- **bit_depth** (int, optional) – *OpenColorIO* colorspace bit depth.
- **allocation** (int, optional) – *OpenColorIO* colorspace allocation type.
- **allocation_vars** (tuple, optional) – *OpenColorIO* colorspace allocation variables.
- **to_reference** (object, optional) – *To Reference OpenColorIO* colorspace transform.
- **from_reference** (object, optional) – *From Reference OpenColorIO* colorspace transform.
- **reference_space** (ReferenceSpaceType, optional) – *OpenColorIO* colorspace reference space.
- **is_data** (bool, optional) – Whether the colorspace represents data.
- **base_colorspace** (ColorSpace, optional) – *OpenColorIO* base colorspace inherited for bit depth, allocation, allocation variables, and to/from reference transforms.

Returns *OpenColorIO* colorspace.

Return type ColorSpace

opencolorio_config_aces.view_transform_factory

opencolorio_config_aces.**view_transform_factory**(*name*, *family=None*, *categories=None*, *description=None*, *to_reference=None*, *from_reference=None*, *reference_space=None*, *base_view_transform=None*)

OpenColorIO view transform factory.

Parameters

- **name** (unicode) – *OpenColorIO* view transform name.
- **family** (unicode, optional) – *OpenColorIO* view transform family.
- **categories** (array_like, optional) – *OpenColorIO* view transform categories.
- **description** (unicode, optional) – *OpenColorIO* view transform description.
- **to_reference** (object, optional) – *To Reference OpenColorIO* view transform transform.
- **from_reference** (object, optional) – *From Reference OpenColorIO* view transform transform.
- **reference_space** (ReferenceSpaceType, optional) – *OpenColorIO* view transform reference space.
- **base_view_transform** (ViewTransform, optional) – Inherited *OpenColorIO* base view transform.

Returns *OpenColorIO* view transform.

Return type ViewTransform

opencolorio_config_aces.ConfigData

class opencolorio_config_aces.**ConfigData**(*profile_version: int = 1*, *description: str = 'An "OpenColorIO" config generated by "OpenColorIO-Config-ACES".'*, *roles: Union[dict, collections.OrderedDict] = <factory>*, *colorspaces: Union[list, tuple] = <factory>*, *looks: Union[list, tuple] = <factory>*, *view_transforms: Union[list, tuple] = <factory>*, *shared_views: Union[list, tuple] = <factory>*, *views: Union[list, tuple] = <factory>*, *active_displays: Union[list, tuple] = <factory>*, *active_views: Union[list, tuple] = <factory>*, *file_rules: Union[list, tuple] = <factory>*, *viewing_rules: Union[list, tuple] = <factory>*, *inactive_colorspaces: Union[list, tuple] = <factory>*, *default_view_transform: str = <factory>*)

Defines the data container for an *OpenColorIO* config.

Parameters

- **profile_version** (int, optional) – Config major version, i.e. 1 or 2.
- **description** (unicode, optional) – Config description.
- **roles** (dict) – Config roles, a dict of role and colorspace name.
- **colorspaces** (array_like) – Config colorspaces, an iterable of PyOpenColorIO.ColorSpace class instances.

- **looks** (array_like, optional) – Config looks, an iterable of PyOpenColorIO.Look class instances.
- **view_transforms** (array_like, optional) – Config view transforms, an iterable of PyOpenColorIO.ViewTransform class instances.
- **shared_views** (array_like, optional) – Config shared views, an iterable of dicts of view, view transform, colorspace and rule names, iterable of looks and description.
- **views** (array_like, optional) – Config views, an iterable of dicts of display, view and colorspace names.
- **active_displays** (array_like, optional) – Config active displays, an iterable of display names.
- **active_views** (array_like, optional) – Config active displays, an iterable of view names.
- **file_rules** (array_like, optional) – Config file rules, a dict of file rules.
- **viewing_rules** (array_like, optional) – Config viewing rules, a dict of viewing rules.
- **inactive_colorspaces** (array_like, optional) – Config inactive colorspaces an iterable of colorspace names.
- **default_view_transform** (unicode, optional) – Name of the default view transform.

profile_version

Type int

description

Type str

roles

Type Union[dict, collections.OrderedDict]

colorspaces

Type Union[list, tuple]

looks

Type Union[list, tuple]

view_transforms

Type Union[list, tuple]

shared_views

Type Union[list, tuple]

views

Type Union[list, tuple]

active_displays

Type Union[list, tuple]

active_views

Type Union[list, tuple]

file_rules

Type Union[list, tuple]

viewing_rules

Type Union[list, tuple]

inactive_colorspaces

Type Union[list, tuple]

default_view_transform

Type str

__init__(*profile_version: int = 1, description: str = 'An "OpenColorIO" config generated by "OpenColorIO-Config-ACES".', roles: Union[dict, collections.OrderedDict] = <factory>, colorspaces: Union[list, tuple] = <factory>, looks: Union[list, tuple] = <factory>, view_transforms: Union[list, tuple] = <factory>, shared_views: Union[list, tuple] = <factory>, views: Union[list, tuple] = <factory>, active_displays: Union[list, tuple] = <factory>, active_views: Union[list, tuple] = <factory>, file_rules: Union[list, tuple] = <factory>, viewing_rules: Union[list, tuple] = <factory>, inactive_colorspaces: Union[list, tuple] = <factory>, default_view_transform: str = <factory>*) → None

Initialize self. See help(type(self)) for accurate signature.

Methods

__init__([profile_version, description, ...])	Initialize self.

Attributes

description
profile_version

opencolorio_config_aces.validate_config

opencolorio_config_aces.**validate_config**(*config*)

Validates given *OpenColorIO* config.

Parameters **config** (Config) – *OpenColorIO* config to validate.

Returns Whether the *OpenColorIO* config is valid.

Return type bool

opencolorio_config_aces.generate_config

opencolorio_config_aces.**generate_config**(*data*, *config_name=None*, *validate=True*)

Generates the *OpenColorIO* config from given data.

Parameters

- **data** (ConfigData) – *OpenColorIO* config data.
- **config_name** (unicode, optional) – *OpenColorIO* config file name, if given the config will be written to disk.
- **validate** (bool, optional) – Whether to validate the config.

Returns *OpenColorIO* config.

Return type Config

Reference Configuration

aces-dev Discovery

`opencolorio_config_aces`

`discover_aces_ctl_transforms`([root_directory])	Discovers the *ACES CTL* transform paths in given root directory: The given directory is traversed and **.ctl* files are collected.
`classify_aces_ctl_transforms`(...)	Classifies given *ACES CTL* transforms.
`unclassify_ctl_transforms`(...)	Unclassifies given *ACES CTL* transforms.
`filter_ctl_transforms`(ctl_transforms[, ...])	Filters given *ACES CTL* transforms with given filterers.
`print_aces_taxonomy`()	Prints *aces-dev* taxonomy:

opencolorio_config_aces.discover_aces_ctl_transforms

opencolorio_config_aces.**discover_aces_ctl_transforms**(*root_directory='/home/docs/checkouts/readthedocs.org/user_config-aces/envs/v0.1.1/lib/python3.7/site-packages/opencolorio_config_aces/config/reference/aces-dev/transforms/ctl'*)

Discovers the *ACES CTL* transform paths in given root directory: The given directory is traversed and **.ctl* files are collected.

Parameters **root_directory** (unicode) – Root directory to traverse to find the *ACES CTL* transforms.

Returns

$$\{\text{“}directory_1\text{”} : [\text{“}transform_a.ctl\text{”}, \text{“}transform_b.ctl\text{”}],\ \ldots,\ \text{“}directory_n\text{”} : [\text{“}transform_c.ctl\text{”}, \text{“}transform_d.ctl\text{”}]\}$$

Return type dict

Examples

```
>>> ctl_transforms = discover_aces_ctl_transforms()
>>> key = sorted(ctl_transforms.keys())[0]
>>> os.path.basename(key)
'ACEScc'
>>> sorted([os.path.basename(path) for path in ctl_transforms[key]])
['ACEScsc.Academy.ACES_to_ACEScc.ctl', 'ACEScsc.Academy.ACEScc_to_ACES.ctl']
```

opencolorio_config_aces.classify_aces_ctl_transforms

opencolorio_config_aces.**classify_aces_ctl_transforms**(*unclassified_ctl_transforms*)
Classifies given *ACES CTL* transforms.

Parameters **unclassified_ctl_transforms** (dict) – Unclassified *ACES CTL* transforms as returned by opencolorio_config_aces.discover_aces_ctl_transforms() definition.

Returns

$$\{\text{“}family''_1 : \{\text{“}genus''_1 : \{\}_{CTL_1}, \ldots, \text{“}family''_n : \{\text{“}genus''_2 : \{\}_{CTL_2}\}\}$$

where

$$\{\}_{CTL_n} = \{\text{“}basename''_n : CTLTransform_n, \ldots, \text{“}basename''_{n+1} : CTLTransform_{n+1}\}$$

Return type dict

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> family = sorted(ctl_transforms.keys())[0]
>>> str(family)
'csc'
>>> genera = sorted(ctl_transforms[family])
>>> print(genera)
['ACEScc', 'ACEScct', 'ACEScg', 'ACESproxy', 'ADX', 'arri', 'canon', 'panasonic', 'red', 'sony
↪']
>>> genus = genera[0]
>>> sorted(ctl_transforms[family][genus].items())
[('ACEScsc.Academy.ACEScc', CTLTransformPair(CTLTransform('csc...ACEScc...ACEScsc.Academy.ACES_
↪to_ACEScc.ctl')', CTLTransform('csc...ACEScc...ACEScsc.Academy.ACES_to_ACEScc.ctl')'))]
```

opencolorio_config_aces.unclassify_ctl_transforms

opencolorio_config_aces.**unclassify_ctl_transforms**(*classified_ctl_transforms*)
Unclassifies given *ACES CTL* transforms.

Parameters **classified_ctl_transforms** (dict) – Classified *ACES CTL* transforms as returned by opencolorio_config_aces.classify_aces_ctl_transforms() definition.

Returns

$$[CTLTransform_1, \ldots, CTLTransform_n]$$

Return type list

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> sorted(
...     unclassify_ctl_transforms(ctl_transforms), key=lambda x: x.path)[0]
CTLTransform('csc...ACEScc...ACEScsc.Academy.ACES_to_ACEScc.ctl')
```

opencolorio_config_aces.filter_ctl_transforms

opencolorio_config_aces.**filter_ctl_transforms**(*ctl_transforms*, *filterers=None*)

Filters given *ACES CTL* transforms with given filterers.

Parameters

- **ctl_transforms** (dict or list) – *ACES CTL* transforms as returned by opencolorio_config_aces.classify_aces_ctl_transforms() or opencolorio_config_aces.unclassify_aces_ctl_transforms() definitions.
- **filterers** (array_like, optional) – List of callables used to filter the *ACES CTL* transforms, each callable takes an *ACES CTL* transform as argument and returns whether to include or exclude the *ACES CTL* transform as a bool.

Returns

$$[CTLTransform_1, \ldots, CTLTransform_n]$$

Return type list

Warning:

- This definition will forcibly unclassify the given *ACES CTL* transforms and return a flattened list.

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> sorted(
...     filter_ctl_transforms(ctl_transforms, [lambda x: x.genus == 'p3']),
...     key=lambda x: x.path)[0]
CTLTransform('odt...p3...InvODT.Academy.P3D60_48nits.ctl')
```

opencolorio_config_aces.print_aces_taxonomy

opencolorio_config_aces.**print_aces_taxonomy**()

Prints *aces-dev* taxonomy:

- The *aces-dev CTL* transforms are discovered by traversing the directory defined by the opencolorio_config_aces.config.reference.ACES_CTL_TRANSFORMS_ROOT attribute using the opencolorio_config_aces.discover_aces_ctl_transforms() definition.
- The *CTL* transforms are classified by *family* e.g. *output_transform*, and *genus* e.g. *dcdm* using the opencolorio_config_aces.classify_aces_ctl_transforms() definition.
- The resulting datastructure is printed.

aces-dev Conversion Graph

opencolorio_config_aces

build_aces_conversion_graph(ctl_transforms)	Builds the *aces-dev* conversion graph from given *ACES CTL* transforms.
node_to_ctl_transform(graph, node)	Returns the *ACES CTL* transform from given node name.
ctl_transform_to_node(graph, ctl_transform)	Returns the node name from given *ACES CTL* transform.
filter_nodes(graph[, filterers])	Filters given *aces-dev* conversion graph nodes with given filterers.
conversion_path(graph, source, target)	Returns the conversion path from the source node to the target node in the *aces-dev* conversion graph.
plot_aces_conversion_graph(graph, filename)	Plots given *aces-dev* conversion graph using Graphviz and pyraphviz.

opencolorio_config_aces.build_aces_conversion_graph

opencolorio_config_aces.**build_aces_conversion_graph**(*ctl_transforms*)

Builds the *aces-dev* conversion graph from given *ACES CTL* transforms.

Parameters **ctl_transforms** (dict or list) – *ACES CTL* transforms as returned by opencolorio_config_aces.classify_aces_ctl_transforms(), opencolorio_config_aces.unclassify_aces_ctl_transforms() or opencolorio_config_aces.filter_ctl_transforms() definitions.

Returns *aces-dev* conversion graph.

Return type DiGraph

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> build_aces_conversion_graph(ctl_transforms)
<networkx.classes.digraph.DiGraph object at 0x...>
```

opencolorio_config_aces.node_to_ctl_transform

opencolorio_config_aces.**node_to_ctl_transform**(*graph*, *node*)

Returns the *ACES CTL* transform from given node name.

Parameters

- **graph** (DiGraph) – *aces-dev* conversion graph.
- **node** (unicode) – Node name to return the *ACES CTL* transform from.

Returns *ACES CTL* transform.

Return type CTLTransform

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> graph = build_aces_conversion_graph(ctl_transforms)
>>> node_to_ctl_transform(graph, 'ODT/P3D60_48nits')
CTLTransform('odt...p3...ODT.Academy.P3D60_48nits.ctl')
```

opencolorio_config_aces.ctl_transform_to_node

opencolorio_config_aces.**ctl_transform_to_node**(*graph*, *ctl_transform*)

Returns the node name from given *ACES CTL* transform.

Parameters

- **graph** (DiGraph) – *aces-dev* conversion graph.
- **ctl_transform** (CTLTransform) – *ACES CTL* transform to return the node name from.

Returns Node name.

Return type unicode

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> graph = build_aces_conversion_graph(ctl_transforms)
>>> ctl_transform = node_to_ctl_transform(graph, 'ODT/P3D60_48nits')
>>> ctl_transform_to_node(graph, ctl_transform)
'ODT/P3D60_48nits'
```

opencolorio_config_aces.filter_nodes

opencolorio_config_aces.**filter_nodes**(*graph*, *filterers=None*)

Filters given *aces-dev* conversion graph nodes with given filterers.

Parameters

- **graph** (DiGraph) – *aces-dev* conversion graph.
- **filterers** (array_like, optional) – List of callables used to filter the *ACES CTL* transforms, each callable takes an *ACES CTL* transform as argument and returns whether to include or exclude the *ACES CTL* transform as a bool.

Returns Filtered *aces-dev* conversion graph nodes.

Return type list

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> graph = build_aces_conversion_graph(ctl_transforms)
>>> sorted(filter_nodes(graph, [lambda x: x.genus == 'p3']))[0]
'InvRRTODT/P3D65_1000nits_15nits_ST2084'
```

opencolorio_config_aces.conversion_path

opencolorio_config_aces.**conversion_path**(*graph*, *source*, *target*)

Returns the conversion path from the source node to the target node in the *aces-dev* conversion graph.

Parameters

- **graph** (DiGraph) – *aces-dev* conversion graph.
- **source** (unicode) – Source node.
- **target** (unicode) – Target node.

Returns Conversion path from the source node to the target node.

Return type list

Examples

```
>>> ctl_transforms = classify_aces_ctl_transforms(
...     discover_aces_ctl_transforms())
>>> graph = build_aces_conversion_graph(ctl_transforms)
>>> conversion_path(graph, 'IDT/Venice_SLog3_SGamut3', 'ODT/P3D60_48nits')
[('IDT/Venice_SLog3_SGamut3', 'ACES2065-1'), ('ACES2065-1', 'OCES'), ('OCES', 'ODT/P3D60_48nits
↪')]
```

opencolorio_config_aces.plot_aces_conversion_graph

opencolorio_config_aces.**plot_aces_conversion_graph**(*graph*, *filename*, *prog='dot'*, *args=''*)

Plots given *aces-dev* conversion graph using Graphviz and pyraphviz.

Parameters

- **graph** (DiGraph) – *aces-dev* conversion graph.
- **filename** (unicode) – Filename to use to save the image.
- **prog** (unicode, optional) – {'neato', 'dot', 'twopi', 'circo', 'fdp', 'nop'}, *Graphviz* layout method.
- **args** (unicode, optional) – Additional arguments for *Graphviz*.

Returns *PyGraphviz* graph.

Return type AGraph

aces-dev Reference Config Generator

opencolorio_config_aces

generate_config_aces([config_name, ...])	Generates the *aces-dev* reference implementation *OpenColorIO* Config using the *Mapping* method.

opencolorio_config_aces.generate_config_aces

opencolorio_config_aces.**generate_config_aces**(*config_name=None*, *validate=True*, *describe=<ColorspaceDescriptionStyle.SHORT_UNION: 14>*, *config_mapping_file_path=PosixPath('/home/docs/checkouts/rea config-aces/envs/v0.1.1/lib/python3.7/site-packages/opencolorio_config_aces/config/reference/generate/resources/ ACES-Config Transforms - Reference Config - Mapping.csv')*, *analytical=True*, *additional_data=False*)

Generates the *aces-dev* reference implementation *OpenColorIO* Config using the *Mapping* method.

The Config generation is constrained by a *CSV* file exported from the *Reference Config - Mapping* sheet from a Google Sheets file. The *Google Sheets* file was originally authored using the output of the *aces-dev* conversion graph to support the discussions of the *OpenColorIO Working Group* on the design of the *aces-dev* reference implementation *OpenColorIO* Config. The resulting mapping is the outcome of those discussions and leverages the new *OpenColorIO 2* display architecture while factoring many transforms.

Parameters

- **config_name** (unicode, optional) – *OpenColorIO* config file name, if given the config will be written to disk.
- **validate** (bool, optional) – Whether to validate the config.
- **describe** (int, optional) – Any value from the opencolorio_config_aces.ColorspaceDescriptionStyle enum.
- **config_mapping_file_path** (unicode, optional) – Path to the *CSV* mapping file used by the *Mapping* method.
- **analytical** (bool, optional) – Whether to generate *OpenColorIO* transform families that analytically match the given *ACES CTL* transform, i.e. true to the *aces-dev* reference but not necessarily user friendly.
- **additional_data** (bool, optional) – Whether to return additional data.

Returns *OpenColorIO* config or tuple of *OpenColorIO* config, opencolorio_config_aces.ConfigData class instance and dict of *OpenColorIO* colorspaces and opencolorio_config_aces.config.reference.CTLTransform class instances.

Return type Config or tuple

Utilities

- *Common*

Common

opencolorio_config_aces.utilities

DocstringDict	A dict sub-class that allows settings a docstring to dict instances.
first_item(iterable[, default])	Returns the first item of given iterable.
common_ancestor(*args)	Returns the common ancestor of given iterables.
paths_common_ancestor(*args)	Returns the common ancestor path from given paths.
vivification()	Implements supports for vivification of the underlying dict like data-structure, magical!
vivified_to_dict(vivified)	Converts given vivified data-structure to dictionary.
message_box(message[, width, padding, ...])	Prints a message inside a box.
is_opencolorio_installed([raise_exception])	Returns if *OpenColorIO* is installed and available.
REQUIREMENTS_TO_CALLABLE	Mapping of requirements to their respective callables.
required(*requirements)	A decorator checking if various requirements are satisfied.
is_string(a)	Returns if given a variable is a *string* like variable.
is_iterable(a)	Returns if given a variable is iterable.
git_describe()	Describes the current *OpenColorIO Configuration for ACES git* version.

opencolorio_config_aces.utilities.DocstringDict

class opencolorio_config_aces.utilities.**DocstringDict**

A dict sub-class that allows settings a docstring to dict instances.

__init__(**args*, ***kwargs*)

Initialize self. See help(type(self)) for accurate signature.

Methods

__init__(*args, **kwargs)	Initialize self.
clear()	
copy()	
fromkeys([value])	Create a new dictionary with keys from iterable and values set to value.
get(key[, default])	Return the value for key if key is in the dictionary, else default.
items()	

continues on next page

Table 8 – continued from previous page

keys()	
pop(k[,d])	If key is not found, d is returned if given, otherwise KeyError is raised
popitem()	2-tuple; but raise KeyError if D is empty.
setdefault(key[, default])	Insert key with a value of default if key is not in the dictionary.
update([E,]**F)	If E is present and has a .keys() method, then does: for k in E: D[k] = E[k] If E is present and lacks a .keys() method, then does: for k, v in E: D[k] = v In either case, this is followed by: for k in F: D[k] = F[k]
values()	

opencolorio_config_aces.utilities.first_item

opencolorio_config_aces.utilities.**first_item**(*iterable*, *default=None*)

Returns the first item of given iterable.

Parameters

- **iterable** (iterable) – Iterable
- **default** (object) – Default value if the iterable is empty.

Returns First iterable item.

Return type object

opencolorio_config_aces.utilities.common_ancestor

opencolorio_config_aces.utilities.**common_ancestor**(**args*)

Returns the common ancestor of given iterables.

Other Parameters ***args** (*list, optional*) – Iterables to retrieve the common ancestor from.

Returns Common ancestor.

Return type iterable

Examples

```
>>> common_ancestor(('1', '2', '3'), ('1', '2', '0'), ('1', '2', '3', '4'))
('1', '2')
>>> common_ancestor('azerty', 'azetty', 'azello')
'aze'
```

opencolorio_config_aces.utilities.paths_common_ancestor

opencolorio_config_aces.utilities.**paths_common_ancestor**(**args*)

Returns the common ancestor path from given paths.

Parameters ***args** (list, optional) – Paths to retrieve common ancestor from.

Returns Common path ancestor.

Return type unicode

Examples

```
>>> paths_common_ancestor(
...     '/Users/JohnDoe/Documents', '/Users/JohnDoe/Documents/Test.txt')
'/Users/JohnDoe/Documents'
```

opencolorio_config_aces.utilities.vivification

opencolorio_config_aces.utilities.**vivification**()

Implements supports for vivification of the underlying dict like data-structure, magical!

Returns

Return type defaultdict

Examples

```
>>> vivified = vivification()
>>> vivified['my']['attribute'] = 1
>>> vivified['my']
defaultdict(<function vivification at 0x...>, {u'attribute': 1})
>>> vivified['my']['attribute']
1
```

opencolorio_config_aces.utilities.vivified_to_dict

opencolorio_config_aces.utilities.**vivified_to_dict**(*vivified*)

Converts given vivified data-structure to dictionary.

Parameters **vivified** (defaultdict) – Vivified data-structure.

Returns

Return type dict

Examples

```
>>> vivified = vivification()
>>> vivified['my']['attribute'] = 1
>>> vivified_to_dict(vivified)
{u'my': {u'attribute': 1}}
```

opencolorio_config_aces.utilities.message_box

opencolorio_config_aces.utilities.**message_box**(*message*, *width=79*, *padding=3*, *print_callable=<built-in function print>*)

Prints a message inside a box.

Parameters

- **message** (unicode) – Message to print.
- **width** (int, optional) – Message box width.
- **padding** (unicode, optional) – Padding on each sides of the message.
- **print_callable** (callable, optional) – Callable used to print the message box.

Returns Definition success.

Return type bool

Examples

```
>>> message = ('Lorem ipsum dolor sit amet, consectetur adipiscing elit, '
...     'sed do eiusmod tempor incididunt ut labore et dolore magna '
...     'aliqua.')
>>> message_box(message, width=75)
===========================================================================
*                                                                         *
*   Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do       *
*   eiusmod tempor incididunt ut labore et dolore magna aliqua.           *
*                                                                         *
===========================================================================
True
>>> message_box(message, width=60)
============================================================
*                                                          *
*   Lorem ipsum dolor sit amet, consectetur adipiscing     *
*   elit, sed do eiusmod tempor incididunt ut labore et    *
*   dolore magna aliqua.                                   *
*                                                          *
============================================================
True
>>> message_box(message, width=75, padding=16)
===========================================================================
*                                                                         *
*                Lorem ipsum dolor sit amet, consectetur                  *
*                adipiscing elit, sed do eiusmod tempor                   *
*                incididunt ut labore et dolore magna                     *
*                aliqua.                                                  *
*                                                                         *
===========================================================================
True
```

opencolorio_config_aces.utilities.is_opencolorio_installed

opencolorio_config_aces.utilities.**is_opencolorio_installed**(*raise_exception=False*)
Returns if *OpenColorIO* is installed and available.

Parameters **raise_exception** (bool) – Raise exception if *OpenColorIO* is unavailable.

Returns Is *OpenColorIO* installed.

Return type bool

Raises **ImportError** – If *OpenColorIO* is not installed.

opencolorio_config_aces.utilities.REQUIREMENTS_TO_CALLABLE

opencolorio_config_aces.utilities.**REQUIREMENTS_TO_CALLABLE = {'NetworkX': <function is_networkx_installed**
Mapping of requirements to their respective callables.

_REQUIREMENTS_TO_CALLABLE [CaseInsensitiveMapping] **{'NetworkX', 'OpenImageIO'}**

opencolorio_config_aces.utilities.required

opencolorio_config_aces.utilities.**required**(**requirements*)
A decorator checking if various requirements are satisfied.

Other Parameters ***requirements** (*list, optional*) – Requirements to check whether they are satisfied.

Returns

Return type object

opencolorio_config_aces.utilities.is_string

opencolorio_config_aces.utilities.**is_string**(*a*)
Returns if given a variable is a *string* like variable.

Parameters **a** (object) – Data to test.

Returns Is a variable a *string* like variable.

Return type bool

Examples

```
>>> is_string("I'm a string!")
True
>>> is_string(["I'm a string!"])
False
```

opencolorio_config_aces.utilities.is_iterable

opencolorio_config_aces.utilities.**is_iterable**(*a*)

Returns if given a variable is iterable.

Parameters **a** (object) – Variable to check the iterability.

Returns a variable iterability.

Return type bool

Examples

```
>>> is_iterable([1, 2, 3])
True
>>> is_iterable(1)
False
```

opencolorio_config_aces.utilities.git_describe

opencolorio_config_aces.utilities.**git_describe**()

Describes the current *OpenColorIO Configuration for ACES git* version.

Returns

- **>>> git_describe() # doctest** (+*SKIP*)
- *'0.1.0'*

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CHAPTER

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1.4 ABOUT

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https://github.com/AcademySoftwareFoundation/OpenColorIO-Config-ACES

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