
Lumache

Release 0.1

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Lumache (/lu'make/) is a Python library for cooks and food lovers that creates recipes mixing random ingredients. It pulls data from the [Open Food Facts database](#) and offers a *simple* and *intuitive* API.

Check out the [Usage](#) section for further information, including how to [Installation](#) the project.

Note: This project is under active development.

CONTENTS

1.1 Usage

1.1.1 Installation

To use Lumache, first install it using pip:

```
(.venv) $ pip install lumache
```

1.1.2 Creating recipes

To retrieve a list of random ingredients, you can use the `lumache.get_random_ingredients()` function:

`lumache.get_random_ingredients(kind=None)`

Return a list of random ingredients as strings.

Parameters

kind (*list[str]* or *None*) – Optional “kind” of ingredients.

Raises

lumache.InvalidKindError – If the kind is invalid.

Returns

The ingredients list.

Return type

list[str]

The `kind` parameter should be either `"meat"`, `"fish"`, or `"veggies"`. Otherwise, *lumache.get_random_ingredients()* will raise an exception.

exception `lumache.InvalidKindError`

Raised if the kind is invalid.

For example:

```
>>> import lumache
>>> lumache.get_random_ingredients()
['shells', 'gorgonzola', 'parsley']
```

1.2 Pyrender Test

```
[1]: %pip install pyrender trimesh
# a newer version of pyopengl is needed: https://github.com/EvelynFan/FaceFormer/issues/7
# issuecomment-1092615864
# split the pip install command, to avoid pip otherwise backtracking to really old
# packages to satisfy all constraints at the same time.
%pip install "pyopengl>=3.1.4" pyopengl_accelerate

Requirement already satisfied: pyrender in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (0.1.45)
Requirement already satisfied: trimesh in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (4.3.2)
Requirement already satisfied: freetype-py in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (2.
  ↳ 4.0)
Requirement already satisfied: imageio in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (2.
  ↳ 34.1)
Requirement already satisfied: networkx in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (3.
  ↳ 3)
Requirement already satisfied: numpy in /home/docs/checkouts/readthedocs.org/user_builds/
  ↳ spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (1.26.4)
Requirement already satisfied: Pillow in /home/docs/checkouts/readthedocs.org/user_
  ↳ builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender)
  ↳ (10.3.0)
Requirement already satisfied: pygamelet>=1.4.10 in /home/docs/checkouts/readthedocs.org/
  ↳ user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from
  ↳ pyrender) (2.0.15)
Requirement already satisfied: PyOpenGL~=3.1.0 in /home/docs/checkouts/readthedocs.org/
  ↳ user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from
  ↳ pyrender) (3.1.7)
Requirement already satisfied: scipy in /home/docs/checkouts/readthedocs.org/user_builds/
  ↳ spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (1.13.0)
Requirement already satisfied: six in /home/docs/checkouts/readthedocs.org/user_builds/
  ↳ spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (from pyrender) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
Requirement already satisfied: pyopengl>=3.1.4 in /home/docs/checkouts/readthedocs.org/
  ↳ user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (3.1.7)
Requirement already satisfied: pyopengl_accelerate in /home/docs/checkouts/readthedocs.
  ↳ org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.10/site-packages (3.1.7)
Note: you may need to restart the kernel to use updated packages.
```

```
[2]: !git clone https://github.com/mmatl/pyrender

Cloning into 'pyrender'...
remote: Enumerating objects: 1308, done.
remote: Counting objects: 100% (151/151), done.
remote: Compressing objects: 100% (87/87), done.
remote: Total 1308 (delta 67), reused 132 (delta 59), pack-reused 1157
Receiving objects: 100% (1308/1308), 28.43 MiB | 46.21 MiB/s, done.
Resolving deltas: 100% (765/765), done.
```



```
[3]: import os
# The osmesa backend is used for reliable, CPU based rendering. Set to 'egl' if you're
# feeling lucky, or read the pyrender docs about other options.
# Also make sure libosmesa is installed on your system, of course.
os.environ['PYOPENGL_PLATFORM'] = 'osmesa'
```

```
[4]: import numpy as np
import trimesh
import pyrender
import matplotlib.pyplot as plt
fuze_trimesh = trimesh.load('pyrender/examples/models/fuze.obj')
mesh = pyrender.Mesh.from_trimesh(fuze_trimesh)
scene = pyrender.Scene()
scene.add(mesh)
camera = pyrender.PerspectiveCamera(yfov=np.pi / 3.0, aspectRatio=1.0)
s = np.sqrt(2)/2
camera_pose = np.array([
    [0.0, -s, s, 0.3],
    [1.0, 0.0, 0.0, 0.0],
    [0.0, s, s, 0.35],
    [0.0, 0.0, 0.0, 1.0],
])
scene.add(camera, pose=camera_pose)
light = pyrender.SpotLight(color=np.ones(3), intensity=3.0,
                           innerConeAngle=np.pi/16.0,
                           outerConeAngle=np.pi/6.0)
scene.add(light, pose=camera_pose)
r = pyrender.OffscreenRenderer(400, 400)
```

```
[5]: for i in range(10):
    color, depth = r.render(scene)
    plt.figure()
    plt.subplot(1,2,1)
    plt.axis('off')
    plt.imshow(color)
    plt.subplot(1,2,2)
    plt.axis('off')
    plt.imshow(depth, cmap=plt.cm.gray_r)
    plt.show()
```



```
[6]: !rm -rf pyrender
```

1.3 K3D Headless Screenshot

```
[1]: %%writefile headless_k3d.py
import numpy as np

import k3d
from k3d.headless import k3d_remote, get_headless_firefox_driver

def generate():
    def iterate(length, x, y, z):
        nl = length // 3

        if nl < 1:
            return

        margin = (nl - 1) // 2

        voxels[z - margin:z + margin + 1, y - margin:y + margin + 1, :] = 0
        voxels[z - margin:z + margin + 1, :, x - margin:x + margin + 1] = 0
        voxels[:, y - margin:y + margin + 1, x - margin:x + margin + 1] = 0

        for ix, iy, iz in np.ndindex((3, 3, 3)):
            if (1 if ix != 1 else 0) + (1 if iy != 1 else 0) + (1 if iz != 1 else 0) != 2:
                iterate(nl, x + (ix - 1) * nl, y +
                        (iy - 1) * nl, z + (iz - 1) * nl)

        iteration = 4
        size = 3 ** iteration

        voxels = np.ones((size, size, size))
```

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```

iterate(size, size // 2, size // 2, size // 2)

plt_voxels = k3d.voxels(voxels.astype(np.uint8),
                       color_map=(0xfdfe03), outlines=True)

plot = k3d.plot(grid_visible=False,
                camera_auto_fit=False,
                screenshot_scale=1,
                axes_helper=0)
plot += plt_voxels

plot.camera = [98.5152, -60.0912, 88.9902,
               43.4731, 37.6014, 31.5219,
               -0.2226, 0.3405, 0.9135]

headless = k3d_remote(plot, get_headless_firefox_driver(), width=800, height=800)

headless.sync(hold_until_refreshed=True)
headless.camera_reset(1)

screenshot = headless.get_screenshot()
headless.close()

return screenshot
png_data = generate()
from PIL import Image as PILImage
from io import BytesIO
with open('headless_k3d.png', 'wb') as f:
    f.write(png_data)
# help(ret)

```

Writing headless_k3d.py

[2]: !python3 headless_k3d.py

```

Traceback (most recent call last):
  File "/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/checkouts/
↳ latest/docs/source/headless_k3d.py", line 54, in <module>
    png_data = generate()
  File "/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/checkouts/
↳ latest/docs/source/headless_k3d.py", line 47, in generate
    headless.sync(hold_until_refreshed=True)
  File "/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/
↳ lib/python3.10/site-packages/k3d/headless.py", line 107, in sync
    self.browser.execute_script("k3dRefresh()")
  File "/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/
↳ lib/python3.10/site-packages/selenium/webdriver/remote/webdriver.py", line 407, in
↳ execute_script
    return self.execute(command, {"script": script, "args": converted_args})["value"]
  File "/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/
↳ lib/python3.10/site-packages/selenium/webdriver/remote/webdriver.py", line 347, in
↳ execute

```

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```

self.error_handler.check_response(response)
File ~/home/docs/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/
↳ lib/python3.10/site-packages/selenium/webdriver/remote/errorhandler.py", line 229, in
↳ check_response
    raise exception_class(message, screen, stacktrace)
selenium.common.exceptions.JavaScriptException: Message: ReferenceError: k3dRefresh is
↳ not defined
Stacktrace:
@http://localhost:8080/headless.html:2:7
@http://localhost:8080/headless.html:3:8

```

```

[3]: import IPython
IPython.display.Image('headless_k3d.png')

```

```

-----
TypeError                                Traceback (most recent call last)
File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳ 10/site-packages/IPython/core/display.py:1045, in Image._data_and_metadata(self,
↳ always_both)
    1044 try:
-> 1045     b64_data = b2a_base64(self.data, newline=False).decode("ascii")
    1046 except TypeError as e:

```

TypeError: a bytes-like object is required, not 'str'

The above exception was the direct cause of the following exception:

```

FileNotFoundError                        Traceback (most recent call last)
File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳ 10/site-packages/IPython/core/formatters.py:977, in MimeBundleFormatter.__call__(self,
↳ obj, include, exclude)
    974     method = get_real_method(obj, self.print_method)
    976     if method is not None:
--> 977         return method(include=include, exclude=exclude)
    978     return None
    979 else:

```

```

File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳ 10/site-packages/IPython/core/display.py:1035, in Image._repr_mimebundle_(self,
↳ include, exclude)
    1033 if self.embed:
    1034     mimetype = self._mimetype
-> 1035     data, metadata = self._data_and_metadata(always_both=True)
    1036     if metadata:
    1037         metadata = {mimetype: metadata}

```

```

File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳ 10/site-packages/IPython/core/display.py:1047, in Image._data_and_metadata(self,
↳ always_both)
    1045     b64_data = b2a_base64(self.data, newline=False).decode("ascii")
    1046 except TypeError as e:

```

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```

-> 1047     raise FileNotFoundError(
1048         "No such file or directory: '%s'" % (self.data)) from e
1049 md = {}
1050 if self.metadata:

```

FileNotFoundError: No such file or directory: 'headless_k3d.png'

```

-----
TypeError                                Traceback (most recent call last)
File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳10/site-packages/IPython/core/display.py:1045, in Image._data_and_metadata(self,
↳always_both)
1044 try:
-> 1045     b64_data = b2a_base64(self.data, newline=False).decode("ascii")
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TypeError: a bytes-like object is required, not 'str'

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```

FileNotFoundError                        Traceback (most recent call last)
File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳10/site-packages/IPython/core/formatters.py:347, in BaseFormatter.__call__(self, obj)
345     method = get_real_method(obj, self.print_method)
346     if method is not None:
--> 347         return method()
348     return None
349 else:

```

```

File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳10/site-packages/IPython/core/display.py:1067, in Image._repr_png_(self)
1065 def _repr_png_(self):
1066     if self.embed and self.format == self._FMT_PNG:
-> 1067         return self._data_and_metadata()

```

```

File ~/checkouts/readthedocs.org/user_builds/spanag-rtd-tutorial/envs/latest/lib/python3.
↳10/site-packages/IPython/core/display.py:1047, in Image._data_and_metadata(self,
↳always_both)
1045     b64_data = b2a_base64(self.data, newline=False).decode("ascii")
1046 except TypeError as e:
-> 1047     raise FileNotFoundError(
1048         "No such file or directory: '%s'" % (self.data)) from e
1049 md = {}
1050 if self.metadata:

```

FileNotFoundError: No such file or directory: 'headless_k3d.png'

[3]: <IPython.core.display.Image object>

1.4 Examples

1.5 API

lumache

Lumache - Python library for cooks and food lovers.

1.5.1 lumache

Lumache - Python library for cooks and food lovers.

Functions

get_random_ingredients([kind])

Return a list of random ingredients as strings.

Exceptions

InvalidKindError

Raised if the kind is invalid.

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