

A python notebook

How can we share with non-techy friends

2024-12-11

VScode tells us about the `conda` environment we used... to make sure we can re-run the code at some pointer later.

Connected to `nsd-analysis` (Python 3.10.15)

This is an `ipynb` notebook

A minimal working example of a python notebook and how to render to a nice version in `html` or `pdf`

Load in an example dataset that comes with the `nilearn` module. And also get the mesh data from the *freesurfer* `fsaverage` mesh.

```
STAT_IMG = datasets.load_sample_motor_activation_image()
fsaverage = datasets.fetch_surf_fsaverage()
```

To render the light gray and dark gray landmarks on the surface, we can use information about the curvature and label whether it is a a hump, gyrus or a trough, sulcus.

```
curv_right = surface.load_surf_data(fsaverage.curv_right)
curv_right_sign = np.sign(curv_right)
curv_left = surface.load_surf_data(fsaverage.curv_left)
curv_left_sign = np.sign(curv_left)
```

Now convert (*sample*) a 3d statistical image into the mesh format - a texture - that can be mapped onto the surface.

```
texture = surface.vol_to_surf(STAT_IMG, fsaverage.pial_right)
```

```
anat = plotting.plot_surf(fsaverage.pial_left,  
                          bg_map=curv_left_sign)
```

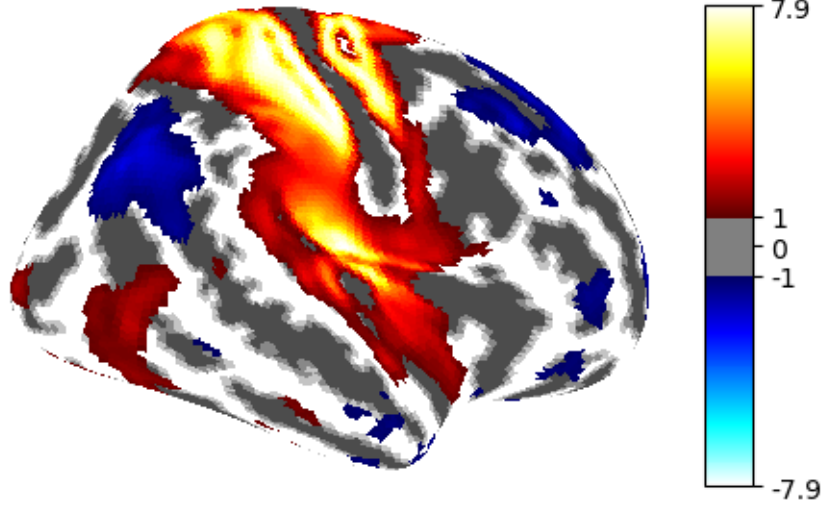


Using more funky plotting

We can use a `nilearn` function to display a rendering in place.

```
plotting.plot_surf_stat_map()
```

Surface right hemisphere



some gratuitous maths

$$\sum_i \frac{(x_i - \bar{x})^2}{n}$$