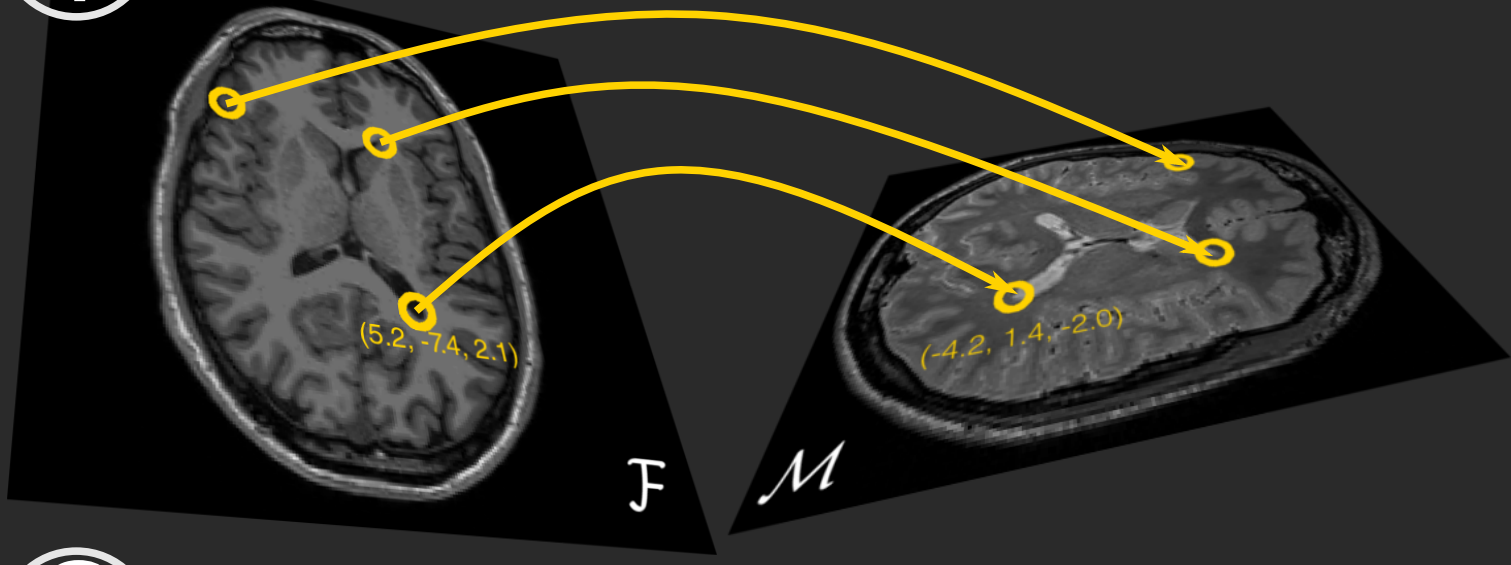
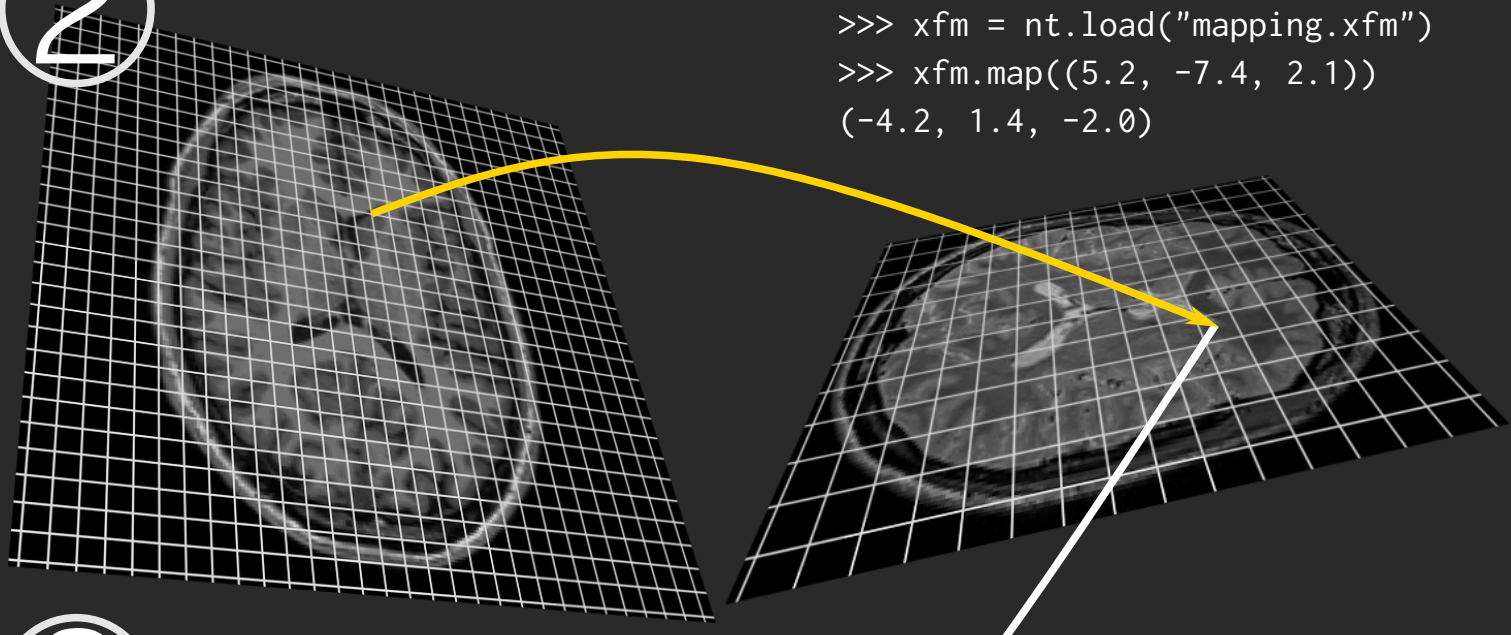
1 **Find the spatial transform**: Estimate the function that, given the coordinates of features in the reference image ($\mathcal{F}$), returns the location of the corresponding features in the moving's coordinate system ($\mathcal{M}$).

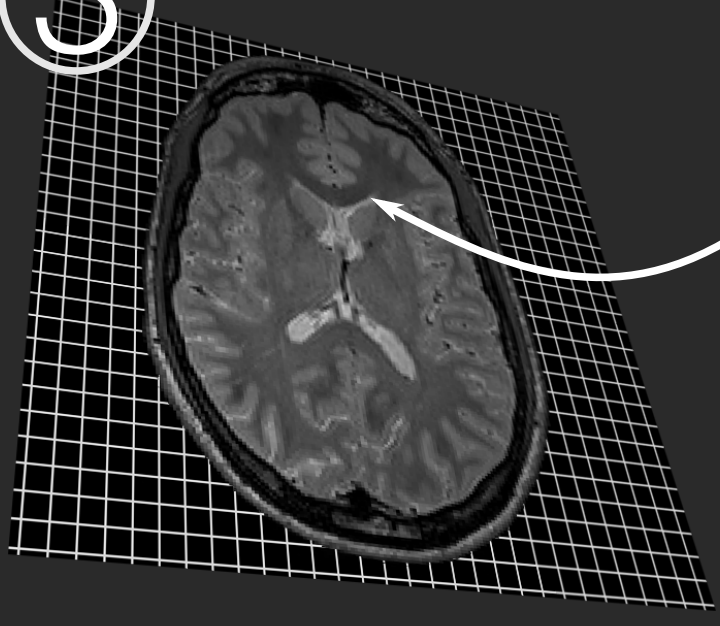


2 **Map the reference image's grid**:

```
>>> import nitransforms as nt
>>> xfm = nt.load("mapping.xfm")
>>> xfm.map((5.2, -7.4, 2.1))
(-4.2, 1.4, -2.0)
```



3 **Interpolation or resampling**:



```
>>> import nitransforms as nt
>>> xfm = nt.load("mapping.xfm",
...                reference="T1w.nii.gz")
>>> nii = xfm.apply("T2w.nii.gz", order=3)
>>> nii.to_filename(
...     "T2w-alignedto-T1w.nii.gz")
```

Reference image ("fixed")

"Moving" image