

Title

Restoration/imputation to improve analysis of low-resolution legacy MRI image data

Category

Image Analysis

Challenge

Utilize digital super resolution to improve analyses of low-resolution imaging data, especially MRI data. It is very challenging to segment smaller brain structures accurately from low-res MRI. If we can reconstruct the images and make internal details more clear then developing automated solutions to analyze them and detect specific phenotypes becomes much more viable.

Benefit

Enriching low resolution images will enable biologists to perform more granular analyses.

Helpful Tools, Packages, or Software

pytorch, torchvision, sklearn

Test Data

https://github.com/dancebean/mouse-brain-atlas/tree/master/NeAt/ex_vivo/template