Exercise 11

Advanced Methods in Medical Image Analysis, Julia Wolleb

Deadline: 20.05.2024

Exercise 11: Denoising Diffusion Models for Image Generation

Follow the tutorial given in MONAI generative models to generate fake chest X-ray images using denoising diffusion probabilistic models.

- For this, clone the Git repo `https://github.com/Project-MONAI/GenerativeModels`.

- Follow the tutorial `GenerativeModels/tutorials/generative/2d_ddpm/2d_ddpm_tutorial.ipynb` to train a diffusion model. You can either run the python script, or the jupyter notebook by running the command `jupyter-lab` in your terminal. Instead of generating images of the class *Hand*, generate images of the class *CXR*, which show chest X-ray images.

- Hand in your adapted file `tutorial.ipynb`.

- Hand in some fake X-ray images generated by sampling from random noise.