The annotation of medical images are expensive. Simulations can be leveraged to create different surgical scenarios. However, the simulated images cannot be directly used to train machine learning models due to the domain gap with the real images. Generative models such as GANs, transformers can be used to translate images from synthetic to realistic domain.

**Tasks**

- Exploration of unpaired image translation techniques based on contrastive learning for medical images
- Implementation of generative models such as GANs
- Implement vision transformer based layers for consistent content-style translation
- Training and evaluation of models

**We are looking for**

- Motivated students interested in working with generative models
- Very good programming knowledge (Python)
- Basic knowledge in Deep learning / Computer Vision
- Ability to communicate research output via presentations, reports etc.

**Time:** 20 to 40h per month (individually adaptable)

**Contact**

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