1:30 - 3: Deep Learning and Statistical Approaches in Medical Imaging

- Discussion: Overview of [ANTsRNet](#) a collection of deep learning tools for biomedical image quantification

  - Tensorflow + Keras

  - pre-trained networks

- Discussion and working examples:

  - U-net segmentation with template-based augmentation

    - brain extraction

    - brain segmentation (whole image, patch-based)

    - tumor segmentation

  - Deep learning-based regression

    - super-resolution

    - Res-nets and other architectures

    - integrative brain mapping with deep learning as a tool

- Other possible topics (time permitting)

  - clustering

  - activation maps

  - deep feature maps