

Determination of infarction areas in brain MRI

Location:

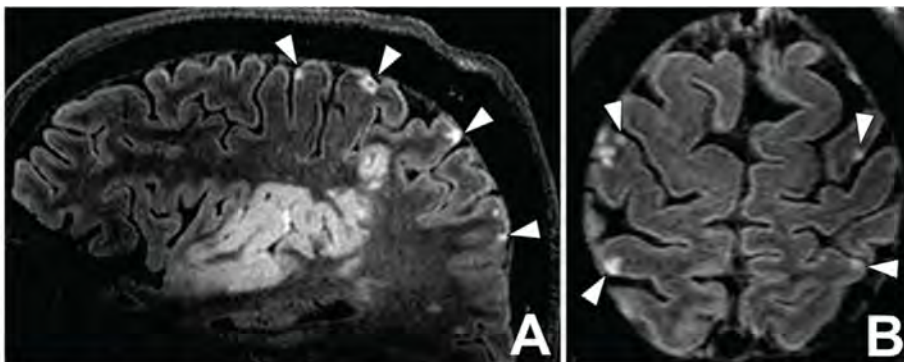
UMC Utrecht

Description:

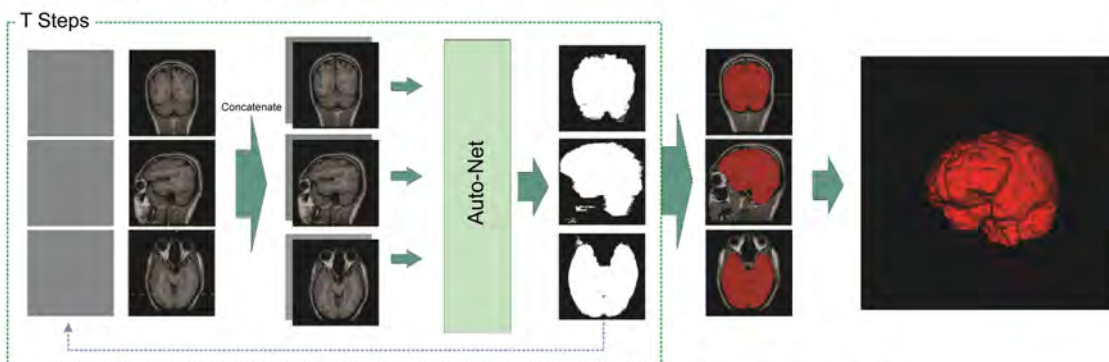
Occlusion of the arteries, feeding the brain with oxygen rich blood, results in damage to the brain tissue. This damage can be visualized with MRI, where the infarction area has a different intensity compared to the surrounding healthy tissue. Manual segmentation of the infarction area(s), to calculate the infarction volume(s), is a time consuming job. During this project, you will implement an image processing pipeline with the aim to automatically segment infarcts, using a deep learning approach.

Supervisor:

Kees van Herpen



Cortical infarcts pointed at by the white arrows, in sagittal (A) and transversal view (B).
Source: De Cocker et al., *Neuroimage* 2016.



Auto-net convolutional neural network architecture used for brain segmentation tasks.
Source: Salehi et al., *IEEE* 2017.