Automated peripheral nerve segmentation for MR-neurography
ELECTRONIC SUPPLEMENTARY MATERIAL

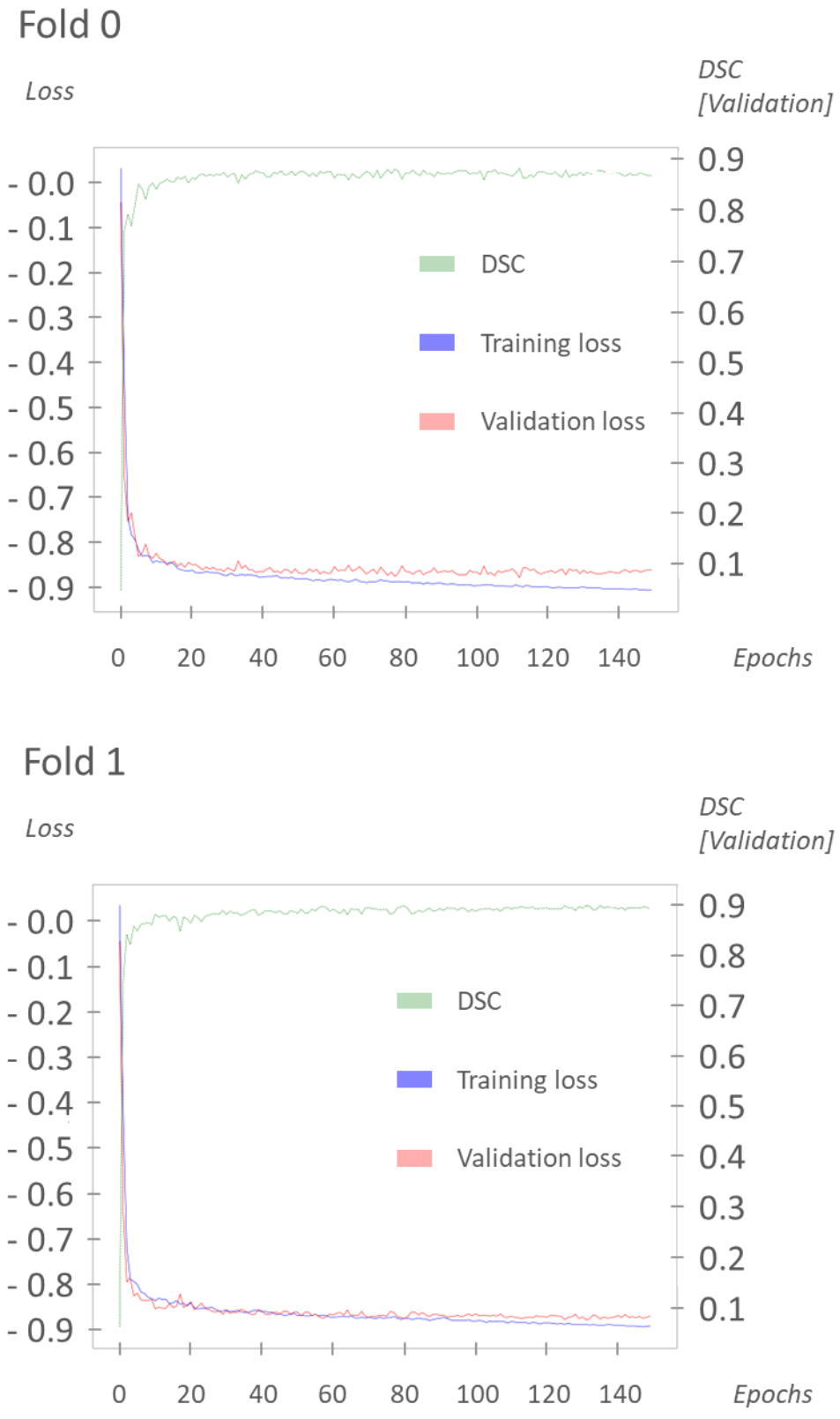
Supplementary Table S1: Network architecture details	**2D**	**3D**
Downsampling strides	[[2, 2], [2, 2], [2, 2], [2, 2], [2, 2], [2, 2], [2, 2]]	[[1, 2, 2], [1, 2, 2], [1, 2, 2], [2, 2, 2], [2, 2, 2], [1, 2, 2]]
Convolution kernel strides	[[3, 3], [3, 3], [3, 3], [3, 3], [3, 3], [3, 3], [3, 3], [3, 3]]	[[1, 3, 3], [1, 3, 3], [1, 3, 3], [3, 3, 3], [3, 3, 3], [3, 3, 3], [3, 3, 3]]

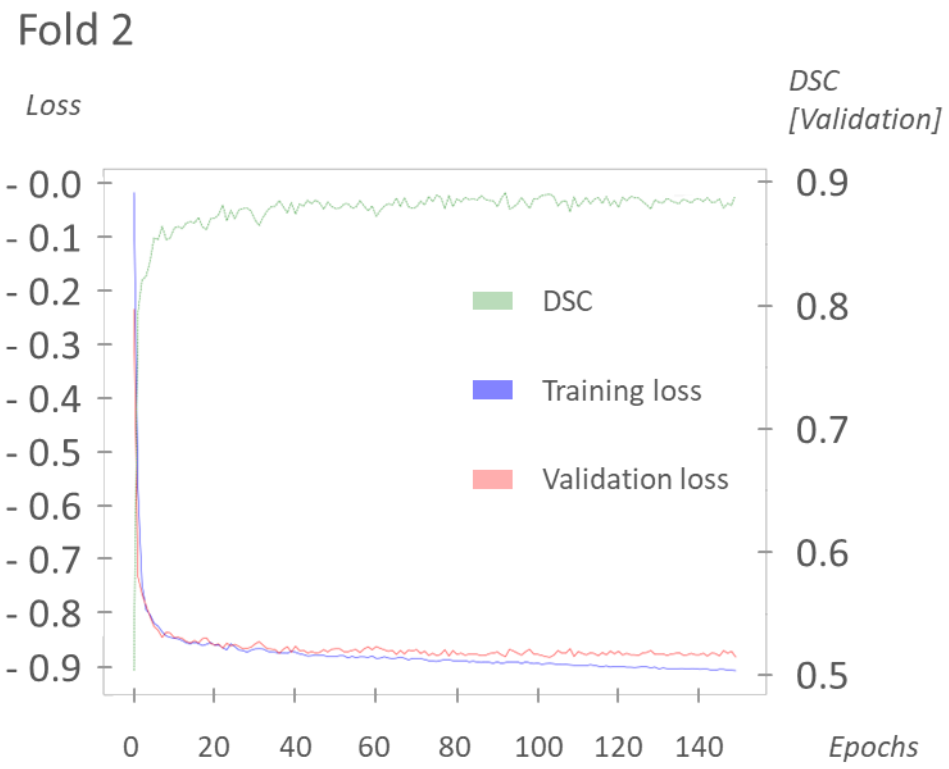
Architectural details for the segmentation networks. U-net shape with multiple resolution stages with two computational blocks per resolution stage in encoder and decoder. Each computational block contains convolution, instance normalization and leaky rectified linear unit (negative slope: 0.01) in this order. Downsampling is applied with strided convolutions and the following upsampling with transposed convolutions. The downsampling strides indicate the downsampling factors along the axes. For instance, a downsampling factor of 1 along all axes for the 3D model is expressed by [1, 1, 1]. Details regarding this notation can also be found in the Supplementary of the original nnUnet publication by Isensee et al. [20].

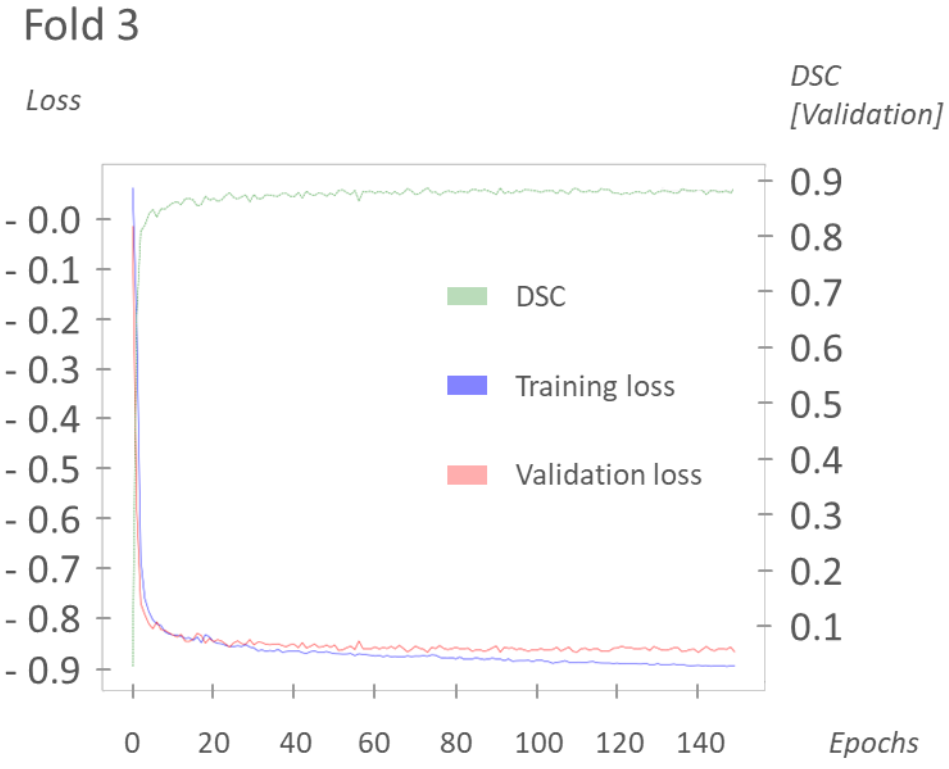
Supplementary Table S2: Normal distribution	Model	Metric	W*	p*
	Training			
		DSC	0.866	< 0.001
		JI	0.894	< 0.001
		HD	0.935	< 0.001
	Test			
		DSC	0.612	< 0.001
		JI	0.766	< 0.001
		HD	0.935	< 0.001
	Intra-Rater			
		DSC	0.919	< 0.001
		JI	0.923	< 0.001
*Shapiro Wilk test		**HD**	0.927	< 0.001

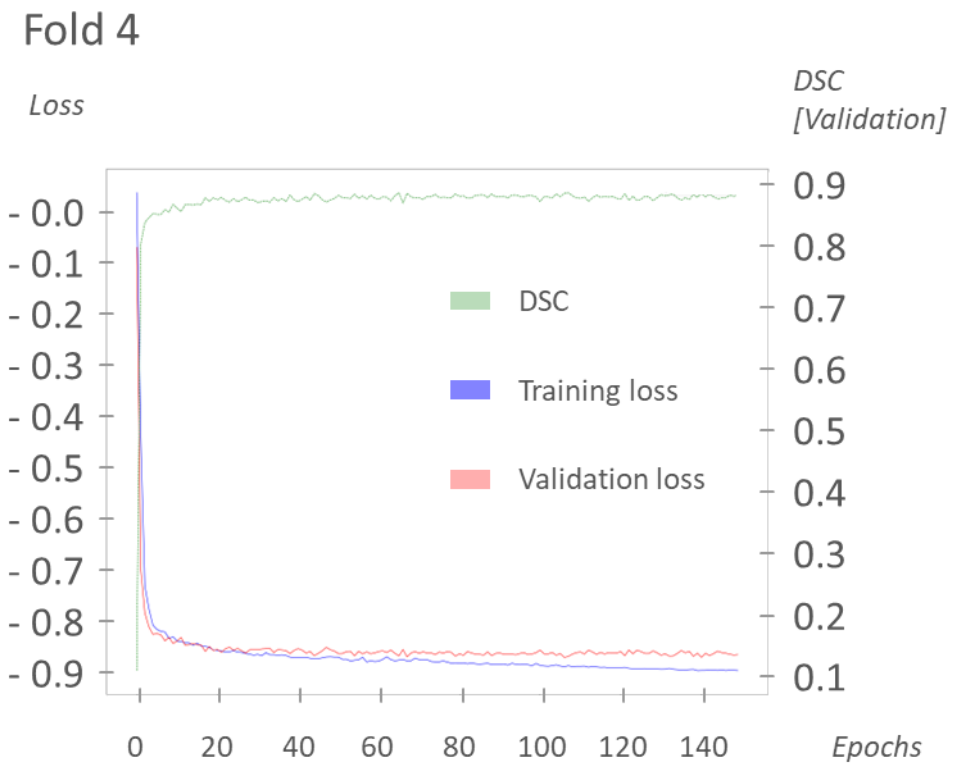
Supplementary Figure S1: Training loss curves

2D model

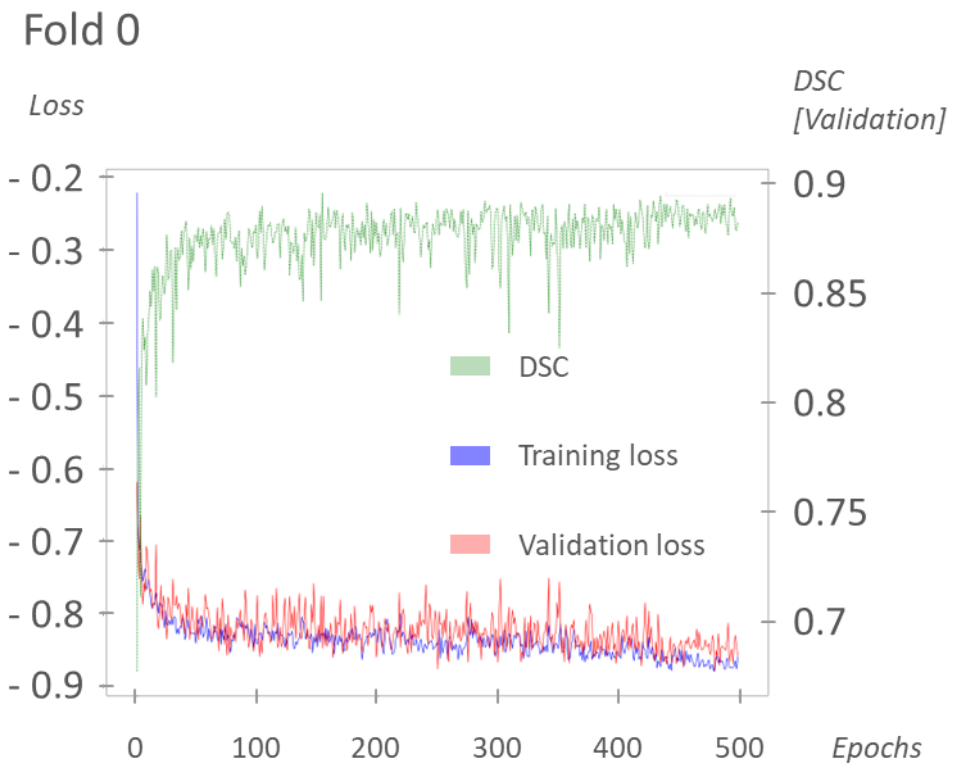


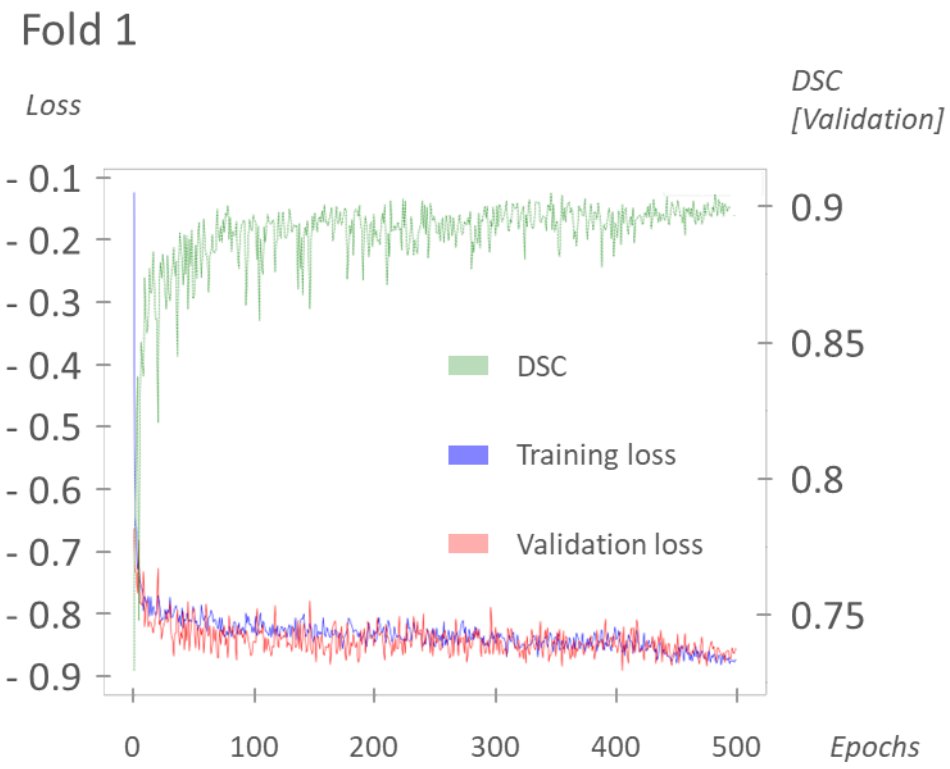

Fold 2
Loss
DSC
[Validation]
- 0.0
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.8
0.7
0.6
0.5
DSC
Training loss
Validation loss
0
20
40
60
80
100
120
140
Epochs

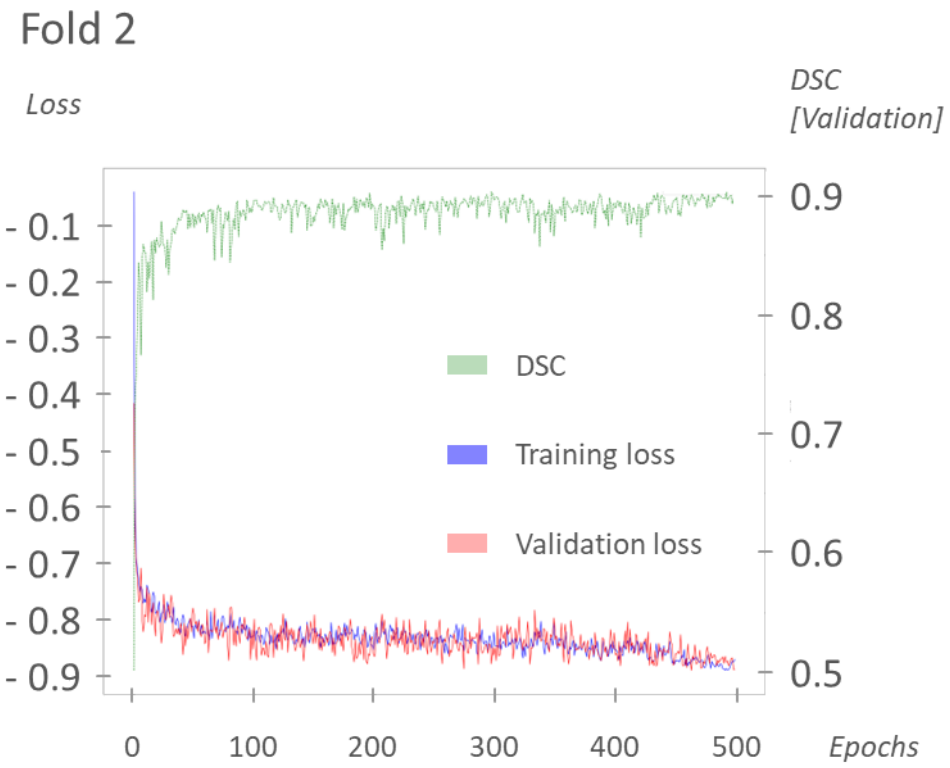

Fold 3
Loss
DSC
[Validation]
- 0.0
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
DSC
Training loss
Validation loss
0
20
40
60
80
100
120
140
Epochs

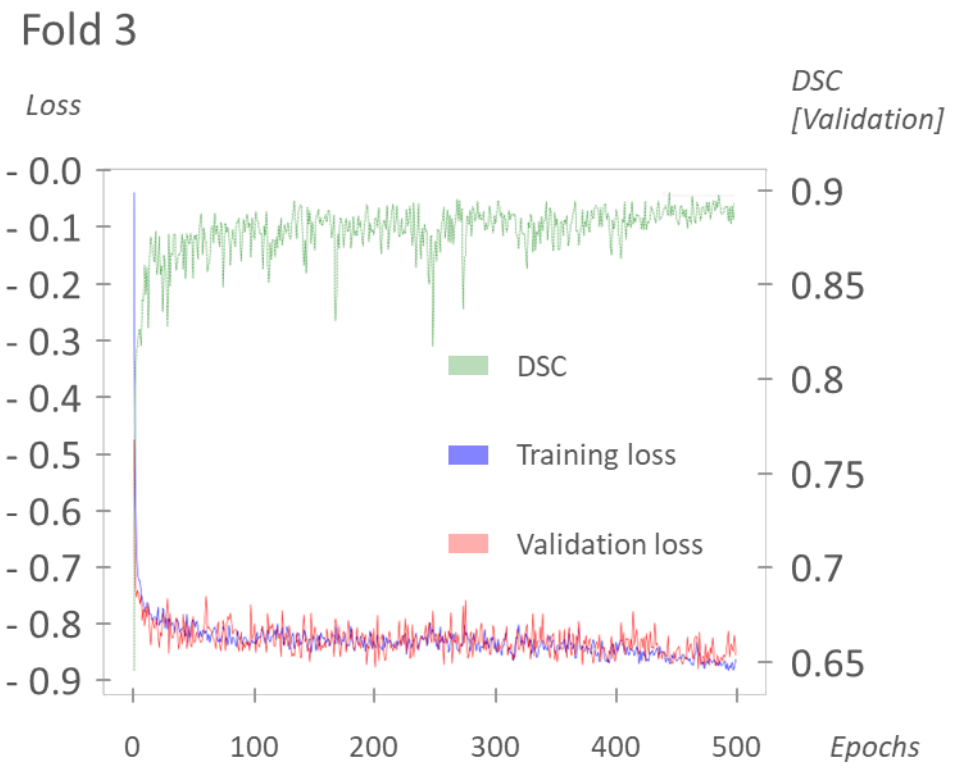

Fold 4
Loss
DSC
[Validation]
- 0.0
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
DSC
Training loss
Validation loss
0
20
40
60
80
100
120
140
Epochs

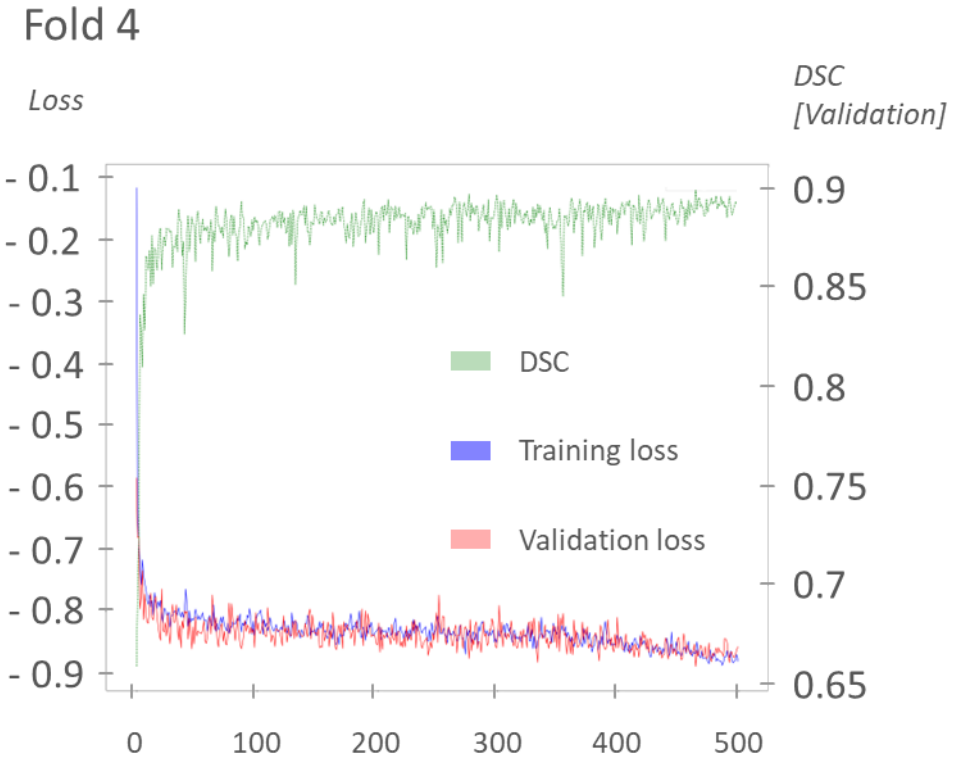
3D model


Fold 0
Loss
DSC
[Validation]
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.85
0.8
0.75
0.7
DSC
Training loss
Validation loss
0
100
200
300
400
500
Epochs


Fold 1
Loss
DSC
[Validation]
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.85
0.8
0.75
DSC
Training loss
Validation loss
0
100
200
300
400
500
Epochs


Fold 2
Loss
DSC
[Validation]
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.8
0.7
0.6
0.5
DSC
Training loss
Validation loss
0
100
200
300
400
500
Epochs


Fold 3
Loss
DSC
[Validation]
- 0.0
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.85
0.8
0.75
0.7
0.65
DSC
Training loss
Validation loss
0
100
200
300
400
500
Epochs


Fold 4
Loss
DSC
[Validation]
- 0.1
- 0.2
- 0.3
- 0.4
- 0.5
- 0.6
- 0.7
- 0.8
- 0.9
0.9
0.85
0.8
0.75
0.7
0.65
DSC
Training loss
Validation loss
0
100
200
300
400
500