



Nils Gessert¹, Marcel Bengs¹, Julia Krüger², Roland Opfer², Ann-Christin Ostwaldt², Praveena Manogaran³, Sven Schippling³, Alexander Schlaefer¹

Medical Technology | Intelligent Systems

Institute of Medical Technology and Intelligent Systems

4D Deep Learning for Multiple Sclerosis Lesion Activity Segmentation

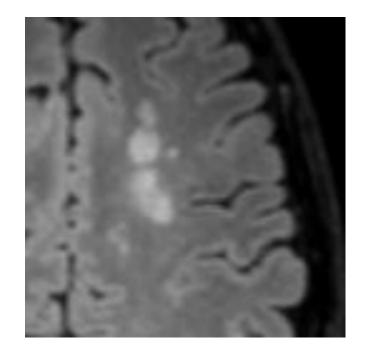
¹Institute of Medical Technology and Intelligent Systems, Hamburg University of Technology

²jung diagnostics GmbH

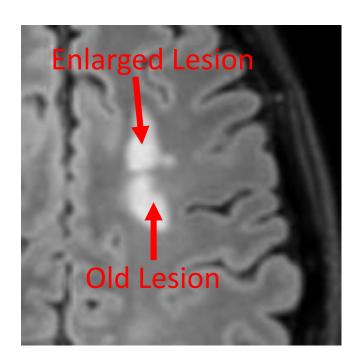
³Department of Neurology, University Hospital Zurich and University of Zurich

Lesion Activity Segmentation

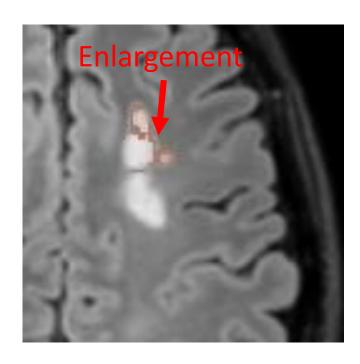




Baseline MRI Scan



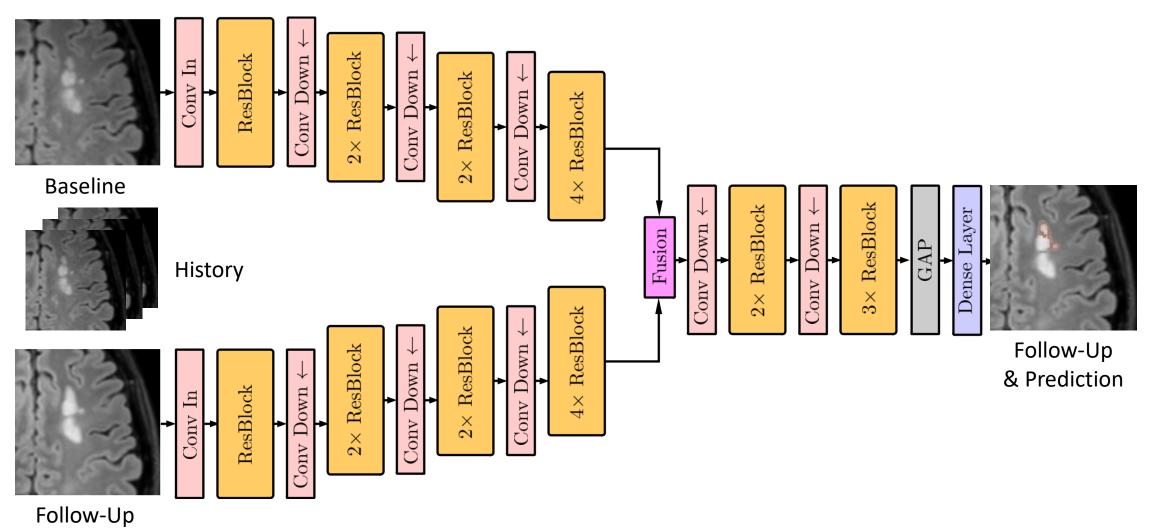
Follow-up MRI Scan



Lesion Activity

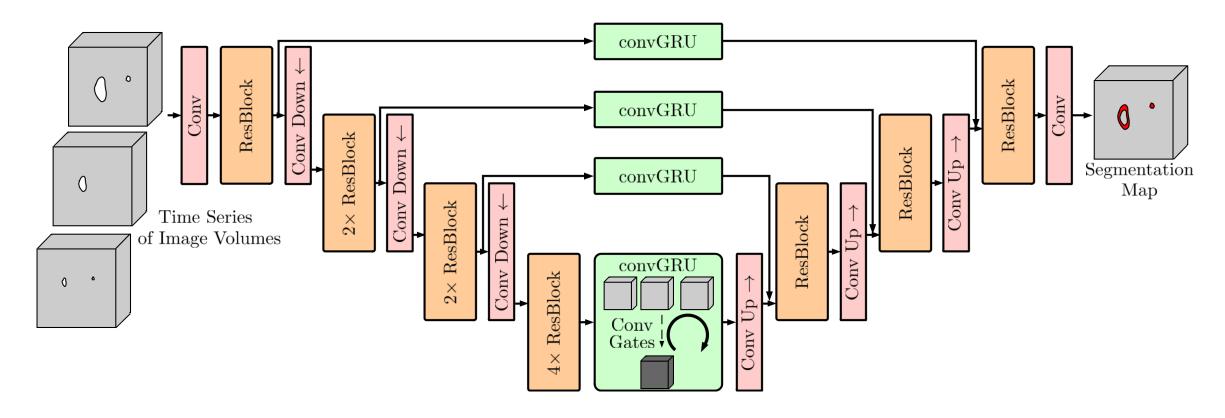
Two-Path 3D Encoder-Decoder





Encoder-convGRU-Decoder





Dataset:

- 44 MS cases, three time points each
- FLAIR image volumes, varying size

Results and Discussion



