

Interpolation and Extrapolation of Subsequent Weather Radar Images

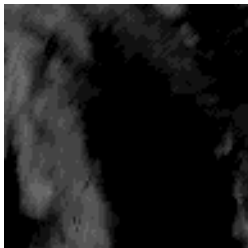
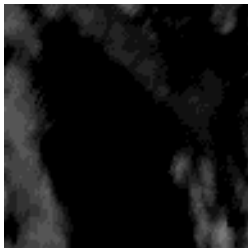
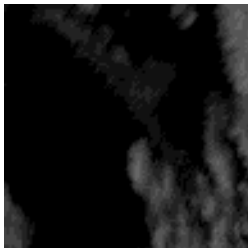
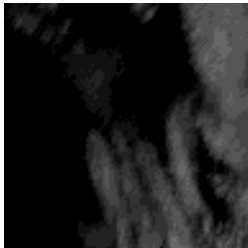
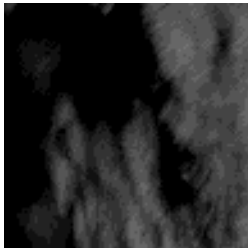
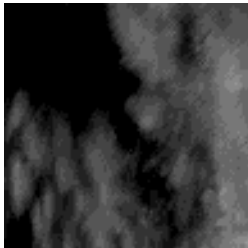
Bachelor's Thesis

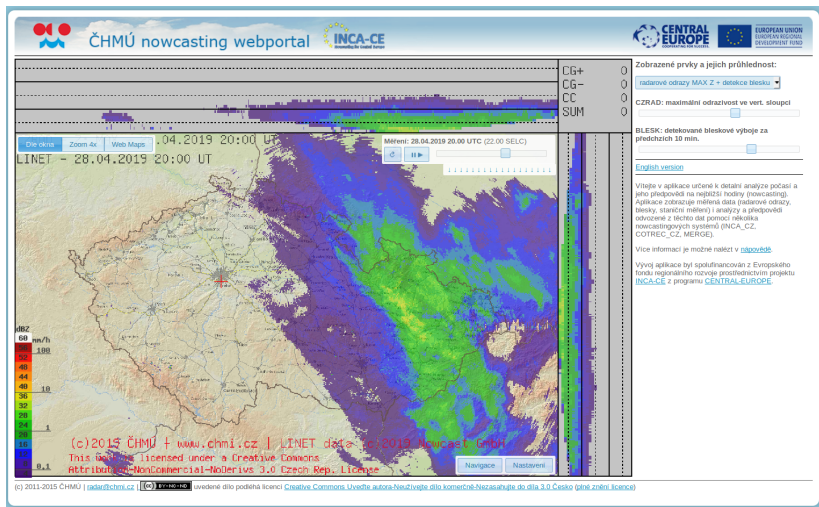
Matej Choma

Department of Applied Mathematics
Supervisor: Ing. Jakub Bartel

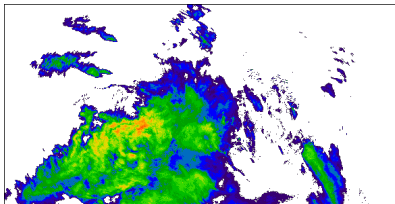
May 7, 2019

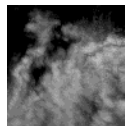
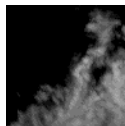
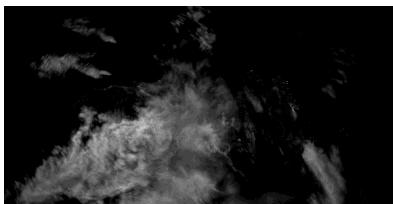
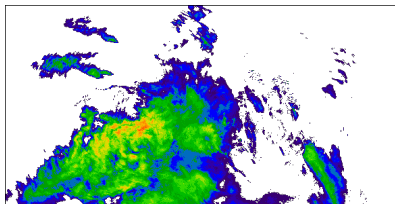
Introduction

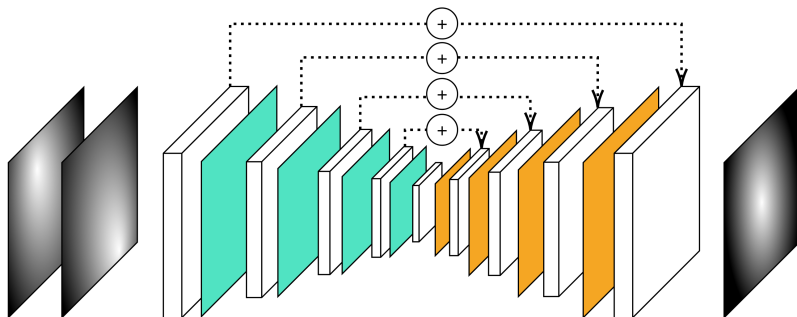






Screenshot of the CHMI radar images from the nowcasting webportal at portal.chmi.cz/files/portal/docs/meteo/rad/inca-cz/short.html









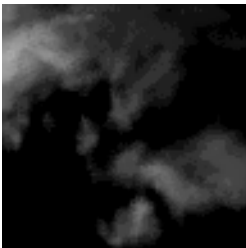
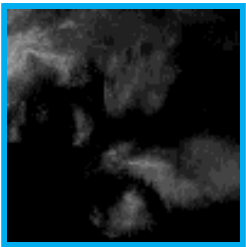
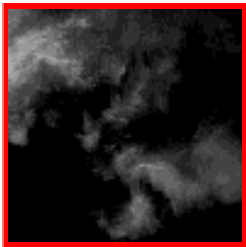
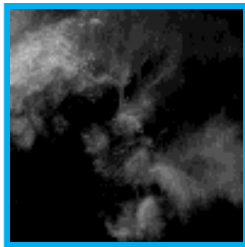
 : convolutional block

 : max-pooling layer

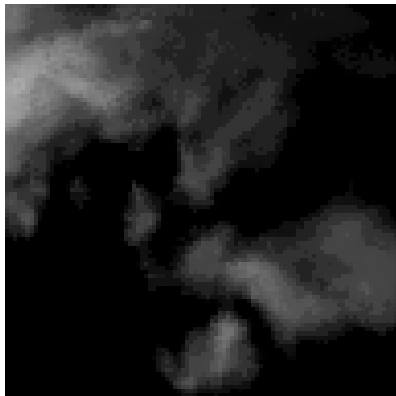
 : residual connections

 : upsampling block

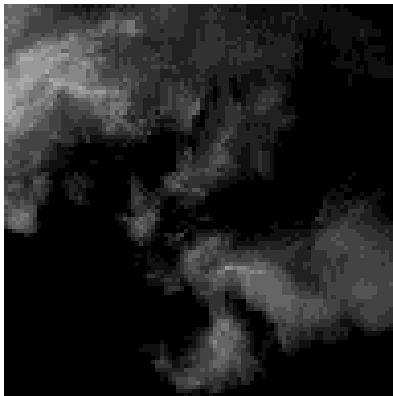
Interpolation Results



Interpolation Results

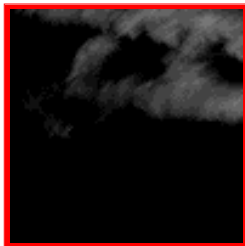
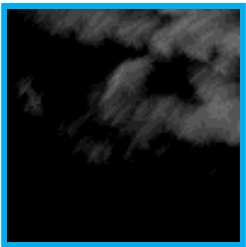
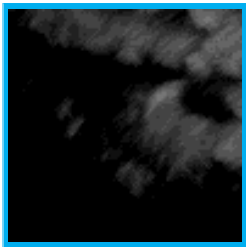
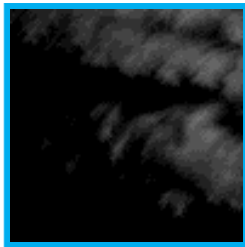


(a) Predicted.

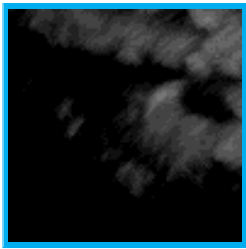
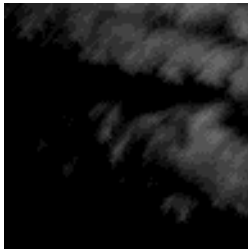


(b) Ground truth.

Extrapolation



Extrapolation



Extrapolation - Results

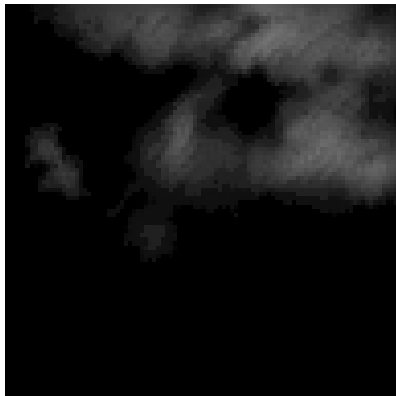


Figure 11: Predicted sequence.

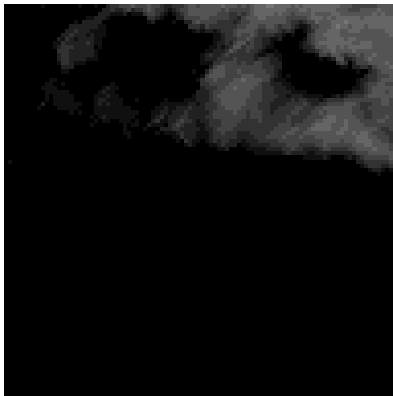


Figure 12: Ground truth sequence.

Extrapolation - Results



(a) Predicted.



(b) Ground truth.

Thank you for your attention!