

Deep Learning and tight frame U-net for tomography

Project for Bachelor Thesis

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1 Aims of the bachelor thesis

Deep learning methods are becoming state of the art in tomographic imaging. For example, in [1], a particular CNN, namely the U-net has been employed to remove artifacts from limited data reconstructions in photoacoustic tomography. In this bachelor thesis the tight frame U-net will be used to and compared to [1]. Existing theoretical results will be summarized and a numerical implementation will be given.

References

- [1] Stephan Antholzer, Markus Haltmeier, and Johannes Schwab. Deep learning for photoacoustic tomography from sparse data. *Inverse Problems in Science and Engineering*, pages 1–19, 2019.