

Propositions accompanying the thesis

Eye to AI

MR image analysis of glioma using machine learning

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1. A properly validated radiomics method is more valuable than one with high performance. (*this thesis*)
2. Not all genetic features of a glioma cause a characteristic change in its appearance on MRI, invalidating a potential radiomics approach for these features. (*this thesis*)
3. The analysis of glioma MR images is currently limited by the available knowledge of the disease mechanisms, not by the available imaging data. (*this thesis*)
4. The lack of adequate metadata associated with brain MRI scans is currently inhibiting the automatic processing of these scans. (*this thesis*)
5. The training of more extensive convolutional neural networks requires code optimization rather than additional GPU resources. (*this thesis*)
6. Confirmation bias leads to the publication of unreliable positive results.
7. Reproducibility of a study requires code, data, trained models, and evaluated results to be shared publicly.
8. Researchers will try to build a rocket ship without having invented a screwdriver.
9. The need to back up every scientific statement with a citation leads to misrepresentations of research conclusions^{1,2}.
10. Finding a lasting solution for environmental and societal issues requires science and scientists to be more approachable.
11. Board games are an excellent opportunity to learn essential skills such as cooperation, communication, planning, and compassion.

¹*S. Klein et al., Elastix: A Toolbox for Intensity-Based Medical Image Registration, 2010*

²*M. Smits, Imaging of oligodendroglioma, 2016*