

# Artificial intelligence in rectal cancer

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## Stellingen

behorend bij het proefschrift:

# Artificial Intelligence in Rectal Cancer

Joost J.M. van Griethuysen, 29-10-2021

1. Deep learning networks have great potential to act as support tools to facilitate the segmentation of rectal tumors on multiparametric MRI. – this thesis
2. A preparatory micro enema significantly improves the quality of diffusion-weighted imaging of the rectum; it should therefore routinely be considered as a preparatory step when diffusion weighted imaging is part of the rectal MRI protocol. – this thesis
3. PyRadiomics offers a highly reproducible and easy-to-use toolbox for radiomic feature extraction. – this thesis
4. Radiomics can render a quantitative MR imaging phenotype of rectal cancer that may help predict the response to neoadjuvant chemoradiotherapy, prior to the start of treatment. – this thesis
5. The next big step in research will be to incorporate radiomics and AI models in clinical trials, assessing their true clinical impact in prospective multicenter settings.
6. Increased collaboration and data sharing is needed to acquire datasets of sufficient quality and size to enable development of accurate and robust AI models. – (Lambin et al, 2017)
7. Ultimately the best clinical prediction models should incorporate information from multidisciplinary sources, including, but not limited to imaging-derived biomarkers.
8. Clinical decision support systems that incorporate knowledge from AI models developed using standard-of-care medical imaging – such as those developed in this thesis – may enable increased personalized delivery of medicine in the foreseeable future.
9. Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning. – Albert Einstein
10. Software is easy to make, except when you want it to do something new. And then, of course, there is a corollary: The only software that's worth making is software that does something new. – Scott Rosenberg
11. Any fool can write code that a computer can understand. Good programmers write code that humans can understand. – Martin Fowler