

## **Deep learning and Handcrafted radiomics: friends or enemies?**

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Artificial intelligence (AI) is becoming increasingly popular due to the increasing amount of imaging data and available computational resources. The use of quantitative imaging techniques in medical imaging has grown at an exponential rate. Handcrafted radiomics (HCR) is a quantitative approach that measures and extracts high dimensional imaging characteristics to aid clinical decision-making. Deep learning (DL) methods learn different features and representations from the image data without the need of explicit feature engineering. Often HCR and DL are presented as competing methods. In this paper, we will illustrate three different ways DL and HCR can collaborate and effectively increase the performance of AI applied to imaging.