

ALLERGY

PIXEL METRICS IN IMAGE ANALYSIS

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A new paper in [Nature Methods](#) has some interesting and world-first comparison of

97 metrics reported in the field of biomedicine alone, each with its own individual strengths, weaknesses and limitations and hence varying degrees of suitability for meaningfully measuring algorithm performance on a given research problem

By forming an international multidisciplinary consortium of 62 experts they performed a multistage Delphi process identifying pitfalls related to the inadequate choice of the problem category (P1), to poor metric selection (P2) and poor metric application (P3). Here is one P1 example of this highly recommended paper.

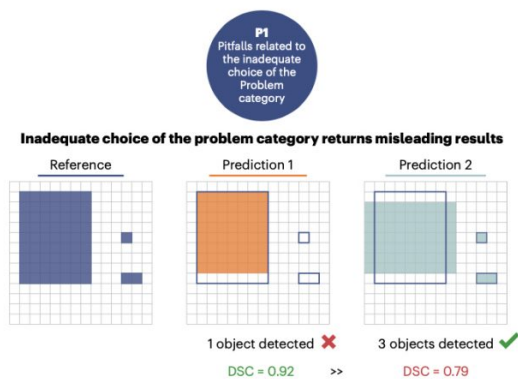


Fig. 3 | P1: pitfalls related to the inadequate choice of the problem category. The effect of using segmentation metrics for object-detection problems. The pixel-level DSC of a prediction recognizing every structure (Prediction 2) is lower than that of a prediction that only recognizes one of the three structures (Prediction 1).

The [pixel metrics are github](#) while the code from the paper [is also online](#). And do not miss the sister publication by Maier-Hein L. et al. "Metrics reloaded: recommendations for image analysis validation" also in [Nat. Methods 2014](#).

