Artificial intelligence

PROPOSITIONS

ARTIFICIAL INTELLIGENCE:
THE KEY TO STANDARDIZING RESPIRATORY DISEASE EVALUATION

1. The clinical trial of tomorrow consists of tumor response evaluation with AI-based volume measurements -- this thesis

2. In tumor response evaluation, consistency in measurement over time points is of utmost importance -- this thesis

3. External validation is not the holy grail if annotation protocols are substantially different -- this thesis

4. There is a pressing need for more research into the validation and implementation of AI -- this thesis

5. We should stop calling annotations that contain interobserver variability 'Ground Truth'

6. A gold standard, specifically in medicine, does not mean it is good nor objective; it is merely the best we currently have under reasonable constraints, and we should question its relevance with more skepticism

7. Goodhart's Law -- When a measure becomes a target, it ceases to be a good measure -- is especially applicable to AI in medicine

8. AI versus humans is not the debate we should be having, but rather how to extract the maximum value AI and humans together can offer

9. Sooner than later, AI will be consistently outperforming humans, and we should have novel evaluation methods in place to assess superhuman performances

10. AI in medicine will enable more accurate and standardized measurements across disciplines, improving patient care and the evaluation of new treatments.