

Checklist for supervised clinical ML study

Before paper submission			
Study design (Part 1)	Completed: page number		Notes if not completed
The clinical problem in which the model will be employed is clearly detailed in the paper.	[x]	2,6,8	
The research question is clearly stated.	[x]	2	
The characteristics of the cohorts (training and test sets) are detailed in the text.	[x]	24	
The cohorts (training and test sets) are shown to be representative of real-world clinical settings.	[x]	3,4,15	
The state-of-the-art solution used as a baseline for comparison has been identified and detailed.	<input type="checkbox"/>		There is no existing baseline because the novelty of this study is related to the use of computer vision in a previously unexplored space.
Data and optimization (Parts 2, 3)	Completed: page number		Notes if not completed
The origin of the data is described and the original format is detailed in the paper.	[x]	12,13,14	
Transformations of the data before it is applied to the proposed model are described.	[x]	13,14,15	
The independence between training and test sets has been proven in the paper.	[x]	13,24	
Details on the models that were evaluated and the code developed to select the best model are provided.	[x]	13,14	
Is the input data type structured or unstructured?	<input type="checkbox"/> Structured <input checked="" type="checkbox"/> Unstructured		
Model performance (Part 4)	Completed: page number		Notes if not completed
The primary metric selected to evaluate algorithm performance (eg: AUC, F-score, etc) including the justification for selection, has been clearly stated.	[x]	5,25,26,27	
The primary metric selected to evaluate the clinical utility of the model (eg PPV, NNT, etc) including the justification for selection, has been clearly stated.	<input type="checkbox"/>		Because we are evaluating the performance of an algorithm, and not an intervention, metrics such as PPV, NNT, etc are not applicable to this study.
The performance comparison between baseline and proposed model is presented with the appropriate statistical significance.	<input type="checkbox"/>		There is no existing baseline to compare to because the novelty of this study is related to the use of computer vision in a previously unexplored space.

Model Examination (Parts 5)	Completed: page number		Notes if not completed
Examination Technique 1 ^a	[x]	14,19	
Examination Technique 2 ^a	[x]	14,25, 26	
A discussion of the relevance of the examination results with respect to model/algorithm performance is presented.	[x]	5,14	
A discussion of the feasibility and significance of model interpretability at the case level if examination methods are uninterpretable is presented.	<input type="checkbox"/>		The examination methods are interpretable as presented.
A discussion of the reliability and robustness of the model as the underlying data distribution shifts is included.	[x]	5	
*Common examination approaches based on study type: * For studies involving exclusively structured data coefficients and sensitivity analysis are often appropriate * For studies involving unstructured data in the domains of image analysis or NLP: saliency maps (or equivalents) and sensitivity analysis are often appropriate			
Reproducibility (Part 6): choose appropriate tier of transparency			Notes
Tier 1: complete sharing of the code		[x]	
Tier 2: allow a third party to evaluate the code for accuracy/fairness; share the results of this evaluation		<input type="checkbox"/>	
Tier 3: release of a virtual machine (binary) for running the code on new data without sharing its details		<input type="checkbox"/>	
Tier 4: no sharing		<input type="checkbox"/>	

PPV: Positive Predictive Value

NNT: Numbers Needed to Treat

^a Common examination approaches based on study type: for studies involving exclusively structured data, coefficients and sensitivity analysis are often appropriate; for studies involving unstructured data in the domains of image analysis or natural language processing, saliency maps (or equivalents) and sensitivity analyses are often appropriate. Select 2 from this list or chose an appropriate technique, document each technique used on the appropriate line above.