### ARTICLE DETAILS

| TITLE (PROVISIONAL) | Deep learning based carotid plaque vulnerability classification with multicenter contrast-enhanced ultrasound video: A comparative diagnostic study |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| AUTHORS             | Guang, Yang; He, Wen; Ning, Bin; Zhang, Hongxia; Yin, Chen; Zhao, Mingchang; Nie, Fang; Huang, Pintong; Zhang, Rui-fang; Yong, Qiang; Guo, Yanli; Yuan, Jianjun; Wang, Yicheng; Yuan, Lijun; Ruan, Litao; Yu, Tengfei; Song, Haiman; Zhang, Yukang |

### VERSION 1 – REVIEW

| REVIEWER | Destrempes, François  
University of Montreal Hospital Research Center (CRCHUM), Montréal, Québec, Canada |
|----------|-----------------------------------------------------------------------------|
| REVIEW RETURNED | 05-Feb-2021 |
| GENERAL COMMENTS | The revised manuscript is of very good quality, in my opinion.  
Comment concerning the abstract: ¶  
#1. If space allows, the result on lines 304-306 could also be part of the abstract (either Results or Conclusion), briefly stated. ¶  
Comments concerning the discussion: ¶  
#2. As far as I can tell, the discussion and conclusions are overall supported by the results. However, on line 335, the phrase “always make incorrect predictions” seems too strong a statement. The submitted study does not really support this statement in full generality. It would be preferable to replace the phrase with “might make incorrect predictions”. Please clarify. ¶  
#3. Lines 379-381: a few references on elastography and SMI in this context could be given. ¶  
Other comments: ¶  
#4. Typo on line 33: there should be a period at the end of the sentence. ¶  
#5. Lines 164-176: at some places, it is written “step (A)”, “step (D)” and at other places “step B”, “step C”. Please be consistent. ¶  
#6. Line 188: step B could be briefly mentioned again here, albeit it is mentioned on line 166. ¶  
#7. Lines 443-444: the first author’s name would be "Lin TY", and the page numbers would be 2980-2988. |
Reviewer: 1
Comments to the Author:
The revised manuscript is of very good quality, in my opinion.

Comment concerning the abstract:
#1. If space allows, the result on lines 304-306 could also be part of the abstract (either Results or Conclusion), briefly stated.
Response: We have added the part to the abstract.
Action: In the abstract, the Results have been revised. (Page 1, lines 16-22)

Comments concerning the discussion:
#2. As far as I can tell, the discussion and conclusions are overall supported by the results. However, on line 335, the phrase “always make incorrect predictions” seems too strong a statement. The submitted study does not really support this statement in full generality. It would be preferable to replace the phrase with “might make incorrect predictions”. Please clarify.
Response: We have modified according to your suggestion.
Action: “always make incorrect predictions” have been replaced by “might make incorrect predictions”. (Page 16, line 313)

#3. Lines 379-381: a few references on elastography and SMI in this context could be given.
Response: We have modified according to your suggestion.
Action: We have added references on elastography and SMI. (Page 18, lines 358-359; Page 21, lines 445-455)

Other comments:
#4. Typo on line 33: there should be a period at the end of the sentence.
Response: According to your suggestion, we have streamlined our description.
Action: We updated the description on page 2 (lines 30-40).

#5. Lines 164-176: at some places, it is written “step (A)”, “step (D)” and at other places “step B”, “step C”. Please be consistent.
Response: We have modified according to your suggestion.
Action: We have corrected the mistakes in writing on page 7 (lines 144, 146).

#6. Line 188: step B could be briefly mentioned again here, albeit it is mentioned on line 166.
Response: We have modified according to your suggestion.
Action: We added some content on page 8 (lines 166-167).

#7. Lines 443-444: the first author’s name would be “Lin TY”, and the page numbers would be 2980-2988.
Response: We have modified according to your suggestion.
Action: In the revised version we have modified the reference on page 20 (lines 430-431).
# VERSION 2 – REVIEW

| REVIEWER | Destrempes, François  
| University of Montreal Hospital Research Center (CRCHUM),  
| Montréal, Québec, Canada |
| REVIEW RETURNED | 29-May-2021 |

| GENERAL COMMENTS | My previous comments have been satisfactorily addressed. Thank you for the responses. Please consider the following three typos:¶  
| Typos in the added text:¶  
| Line 21 (p. 1, abstract): there is a missing space between “cohorts” and “(training.”.¶  
| Line 447 (p. 21, reference 19): for the second author’s name, it would be “Cardinal MHR” instead of “Cardinal MR”.¶  
| Also:¶  
| Lines 466-474 (p. 21, titles of figures): some of the titles end with a period, others not.¶ |