

Reviewer 1:

Please do a more detailed literature search. There are many important articles were not included in the study. For example, in the “AI and Diabetic retinopathy”, the references below were not included. ① Applying artificial intelligence to disease staging: Deep learning for improved staging of diabetic retinopathy ② Automated Identification of Diabetic Retinopathy Using Deep Learning ③ Artificial Intelligence With Deep Learning Technology Looks Into Diabetic Retinopathy Screening ④ Improved Automated Detection of Diabetic Retinopathy on a Publicly Available Dataset Through Integration of Deep Learning ⑤ A deep learning approach for automatic identification of referral-warranted diabetic retinopathy ⑥ An Expert System for Diabetic Retinopathy Screening With a Non-Mydriatic, Operator-Free Fundus Camera Besides, there are many common sense errors, grammatical mistakes, and clerical errors. Title: Ok Abstract ① deep machine learning? Do you mean “deep learning”? ② Please check the word “improvise”, it is better to use “improve” Introduction: There are many improper representations, further modification should be done. In additional, the references should be added when you explained the application of artificial intelligence in ophthalmology diseases. ① “Artificial Intelligence is a software”: the statement is inappropriate. I suggest changing the sentence to “Artificial Intelligence software can perform cognitive functions ...” ② Reference[1] should be before full stop. ③ The sentence “...corneal ectasia, keratoconus, ROP and ocular reconstruction.” should be “...corneal ectasia, keratoconus, ROP, and ocular reconstruction.” ④ Machine learning (ML) to machine learning (ML) ⑤ In 1956, a small group of scientists gathered for the Dartmouth Summer Research Project on Artificial Intelligence, which was the birth of this field of research. Please check the existence of AI, 1956 or 1959???

Author:

The search was done thoroughly. The references, as suggested, were provided. The details have been mentioned in the AI and retinopathy. The following details have been incorporated.

Abramoff et al reported that deep learning enhanced algorithm for automated detection of DR has better sensitivity than the Iowa Detection Program (IDP)—without deep learning components. The sensitivity and specificity of deep learning-based automated DR detection algorithm was 96.8% (95% CI: 93.3%–98.8%) and 87.0% (95% CI: 84.2%–89.4%) with 6/874 false negatives, resulting in a negative predictive value of 99.0% (95% CI: 97.8%–99.6%). The authors did not miss a single case of severe non-proliferative DR (NPDR), proliferative DR (PDR), or macular oedema (ME) with the deep learning technology. Gargeya and associates developed a data-driven deep learning algorithm where the colour fundus images were classified as healthy (no-retinopathy) or DR. Their model achieved a 0.97 AUC with a 94% and 98% sensitivity and specificity, respectively. The external validation of this algorithm was performed with the public MESSIDOR 2 and E-Ophtha databases. The AUC score of these two databases were 0.94 and 0.95, respectively.

Wong et al pointed out certain limitations of deep learning technology in AI for the screening of DR. There is no simple, standardized algorithm to follow. The technology can tell about the referral cases but fail to detect severe sight-threatening DR which need urgent attention. The software may fail to detect associated glaucoma and age-related macular degeneration while screening for DR. The most severe problem is the development of the faith of physicians on the machine. The heterogeneous population, different races, and variability in pupil dilatation, cataract severity and media opacities

may be fool the machine and can be one of the reasons for not accepting the technology by the physicians.

Reviewer:

Title : Ok Abstract

① deep machine learning? Do you mean “deep learning”?

Author: It is deep learning. Modified

Reviewer: ② Please check the word “improvise”, it is better to use “improve” Introduction: There are many improper representations, further modification should be done. In addition, the references should be added when you explained the application of artificial intelligence in ophthalmology diseases.

Author: The word improvise was changed to improve. The references have been added.

Reviewer: ① “Artificial Intelligence is a software” : the statement is inappropriate. I suggest changing the sentence to “Artificial Intelligence software can perform cognitive functions ...” ② Reference [1] should be before full stop. ③ The sentence “...corneal ectasia, keratoconus, ROP and ocular reconstruction.” should be “...corneal ectasia, keratoconus, ROP, and ocular reconstruction.” ④ Machine learning (ML) to machine learning (ML) ⑤ In 1956, a small group of scientists gathered for the Dartmouth Summer Research Project on Artificial Intelligence, which was the birth of this field of research. Please check the existence of AI, 1956 or 1959???

Author: 1. Changed to “ Artificial Intelligence software can perform cognitive functions ...”

2. The reference was placed before the full stop. 3. The sentence was modified as suggested. “...corneal ectasia, keratoconus, ROP, and ocular reconstruction.” 4. ④ Machine learning (ML) was changed to machine learning (ML) 5. It is 1956.

Reviewer 2:

Dear Authors, This is a general review article of the use of AI in the field of ophthalmology. Broad summary of current state of affairs. Minor spelling errors to be corrected before publication recommended. Please proceed Best wishes csb

Author: the spelling mistakes have been corrected.