Data annotators: The unacclaimed heroes of artificial intelligence revolution in ophthalmology

Dear Editor,

We read the interesting article by Ramesh *et al*.[1] on artificial intelligence in glaucoma, highlighting the human-in-the-loop machine learning for glaucomatous defects. The authors have aptly highlighted the use of Microsoft's Visual Object Tagging Tool (VoTT) for comprehensive and customized data labelling. We believe that this is a less explored concept in the field of ophthalmology and merits further discussion.

Slow and steady, we are marching towards an era of artificial intelligence (AI) in ophthalmology. Machine and deep learning algorithms have picked up and have contributed in diagnosing numerous conditions like glaucoma, diabetic retinopathy (DR), retinopathy of prematurity (ROP), and age-related macular degeneration (ARMD). As we all know, AI's potential in assisting ophthalmological diagnoses and screening is exceptionally high, but on every occasion, we fail to recognize the importance and contribution of data annotators.[2]

Data annotation is the method of labelling the data for AI-based tools or mobile-based applications. The data can be an image, text, audio, or video clip. Data annotators are highly skilled medical professionals who assist in time-consuming data annotation and conceptual build-up of AI algorithms.[3] Day in and out, they deal with a large quantity of data, label it and form the backbone of all AI and machine learning models. They are the real unsung heroes in the AI revolution.[4] The more data annotated and added to the AI-based models, the more reliable and smarter the application becomes. Data annotators are the future of AI globally, and their demand will increase in the future. The data annotation market is massive, and there is a huge requirement of annotators there.[5]

Several strategic steps have been taken to make data annotation attractive to ophthalmologists, like the Google-backed company DeepMind which has built a prototype to diagnose complex ocular pathologies in real-time. This prototype was developed in collaboration with Moorfields Eye Hospital, London.[6]

Critical roles of data annotators

1. The essential aspect of a data annotator is the quality of data annotated. Once the quality check is passed, only then can the data be merged to bring out a meaningful AI algorithm.
2. Their other important role is to manage the crashes associated with data annotation when machine learning fails to process. Hence, they are also called data annotation specialists.

In a nutshell, AI is still dependent on data annotators, and we must not forget that they are the unacclaimed heroes of the AI revolution in ophthalmology.

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Conflicts of interest

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