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February 21, 2024

Dear Editor,

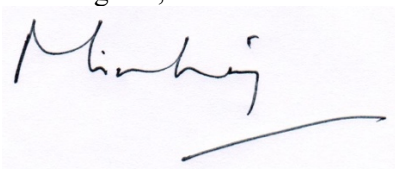
We are submitting a TVST manuscript, entitled “Quantitative Characterization of Retinal Features in Translated OCTA” for your consideration.

This study explores the feasibility of using generative machine learning (ML) to translate Optical Coherence Tomography (OCT) images into Optical Coherence Tomography Angiography (OCTA) images, potentially bypassing the need for specialized OCTA hardware. The motivation of this study is to find promising solutions to the limitations of OCTA dataset available in clinical sector by utilizing the advantage of ML to translate OCTA images from OCT and then check the quality of the generated images compared to the ground truths (GT). The method involved a generative adversarial network framework that includes a 2D vascular segmentation model and a 2D OCTA image translation model. This framework is designed to enhance the accuracy, resolution, and continuity of vascular regions in the translated OCTA (TR-OCTA) images.

Overall, the results showed significant similarity between the GT and TR OCTA in terms of structural similarity indexes. We have also quantitatively characterized retinal features in TR-OCTAs to assess utility in clinical applications. This study will be of utmost interest to ophthalmologists, imaging scientists, and ML researchers, especially due to the recent advent of generative ML.

Please contact me by phone at, +1 704-687-8408 or by email at, malam8@uncc.edu for any questions in this matter.

Best Regards,



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