|  |  |
| --- | --- |
| Title of the paper | Vision Transformer Model for Predicting the  Severity of Diabetic Retinopathy in Fundus  Photography-Based Retina Images |
| Authors | Ahmad O. Aseeri (a.aseeri@psau.edu.sa) |
| Dataset used | APTOS2019  RFMiD2020 |
| Existing system and models used | ViT-Base  ViT-Large |
| Proposed work of the paper | The problem of automated severity stage detection of DR from fundus images. We proposed a vision transformer deep learning pipeline to capture longrange dependencies in images. The study used the transfer learning technique to train a large vision model on a relatively small dataset |
| Future work | we will investigate the performance of ViT across different numbers of layers and heads. As our ViT model did not perform any lesion segmentation, we will explore differ segmentation techniques for fundus images to improve the detection of DR and to improve the understandability of the resulting decision by providing visual explainability of the model decision. Before AI model deployment, it must be tested regarding its fairness against any bias in data or algorithm, the robustness against adversarial attacks, the capability to protect the privacy of patient, the stability and robustness, and the ability to quantify and enhance model’s uncertainty. |