**SwinCup: Cascaded swin transformer for histopathological structures segmentation in colorectal cancer**

Recently, ransformer models have taken the lead as the architecture for many computer vision tasks, such as picture segmentation, object detection, and classification. Their ability to incorporate knowledge about the global context into the learning process is the primary factor in their success. Recently, by using self-attention Models can now take long-range dependencies into account thanks to improvements in the Transformer architecture design. In this study, we present a brand-new transformer for the segmentation of histopathology images called Swin Transformer with Cascaded UPsampling (SwinCup). To extract global context characteristics, we employ a hierarchical Swin Transformer with shifted windows as an encoder. The model may focus on various portions of the image at various scales thanks to the multi-scale feature extraction in a Swin transformer. Encoder and cascaded upsampling decoder are utilised.

Due to the high cost of medical endeavors, there is a dearth of massive amounts of labelled data. Machine learning pipelines that can make use of additional resources are crucial for a more reliable implementation in a clinical process. This paper presents a framework for bridging the gap between the clinical and technological worlds of machine learning. using difficult medical datasets to train transformer-based models.

In this paper, we introduce SwinCup, a pipeline for colorectal cancer histological structures segmentation based on hierarchical Swin Transformer encoder-decoders. We highlight the influence of pre-training on relevant domains for pathology-associated issues and show the impact of a global context approach to medical imagery. Studies on colorectal slide images demonstrate that SwinCup performs better than other cutting-edge techniques.

As the architecture for many computer vision applications, including image segmentation, object identification, and classification, ransformer models have recently assumed the lead. The key to their success is their capacity to integrate information of the global context into the learning process. Recently, leveraging self-awareness Long-range dependencies are now taken into account by models thanks to enhancements in the Transformer architecture design. In this paper, we introduce Swin Transformer with Cascaded UPsampling, a novel transformer for the segmentation of histopathology pictures. (SwinCup). We use a hierarchical Swin Transformer with shifted windows as an encoder to extract global context properties. The multi-scale feature extraction in a Swin transformer enables the model to concentrate on different areas of the image at different scales. Encoder