CrossSpec: Using Cross-Species Data Integration from Homologous and Analogous Structures in Layer Segmentation for Kidney Pathology

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Abstract

This report explores the use of cross-species data integration in layer segmentation for kidney pathology. We leverage homologous and analogous structures to improve segmentation performance using public datasets such as NuInsSeg [1]. This approach has potential to improve model generalization and performance, especially under conditions of limited clinical data availability.

Keywords: Layer Segmentation, Kidney Pathology, Cross-Species Data Integration

1. Introduction

Kidney pathology research increasingly relies on robust segmentation of histological images. Cross-species integration of homologous and analogous structures presents an opportunity to enhance segmentation models. In this work, we explore approaches that leverage such integration, building upon datasets such as NuInsSeg [1].

2. Method

Your method description goes here.

References

[1] Amirreza Mahbod, Christine Polak, Katharina Feldmann, Rumsha Khan, Katharina Gelles, Georg Dorffner, Ramona Woitek, Sepideh Hatamikia, and Isabella Ellinger. Nuinsseg: A fully annotated dataset for nuclei instance segmentation in h&e-stained histological images. *arXiv preprint arXiv:2308.01760*, 2023.