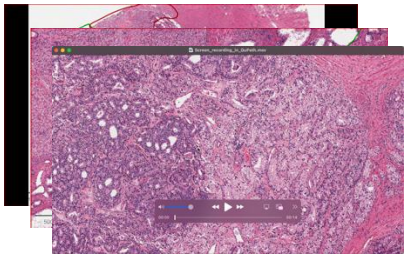
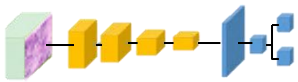
Tracking



Pathology Videos



YOLO object detection

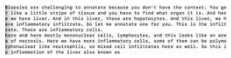
pointing

Optical Flow

panning

zooming

OpenAI Whisper



Caption

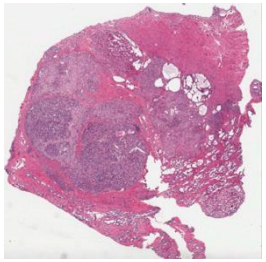
Behavior pattern

Motion

Viewing

Transcription

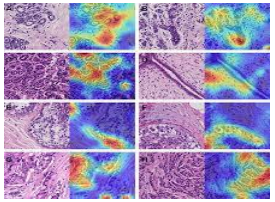
Simulation



WSI

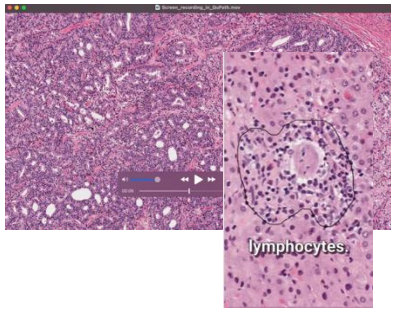
Pathology foundation model UNI

Pathologists' behavior patterns

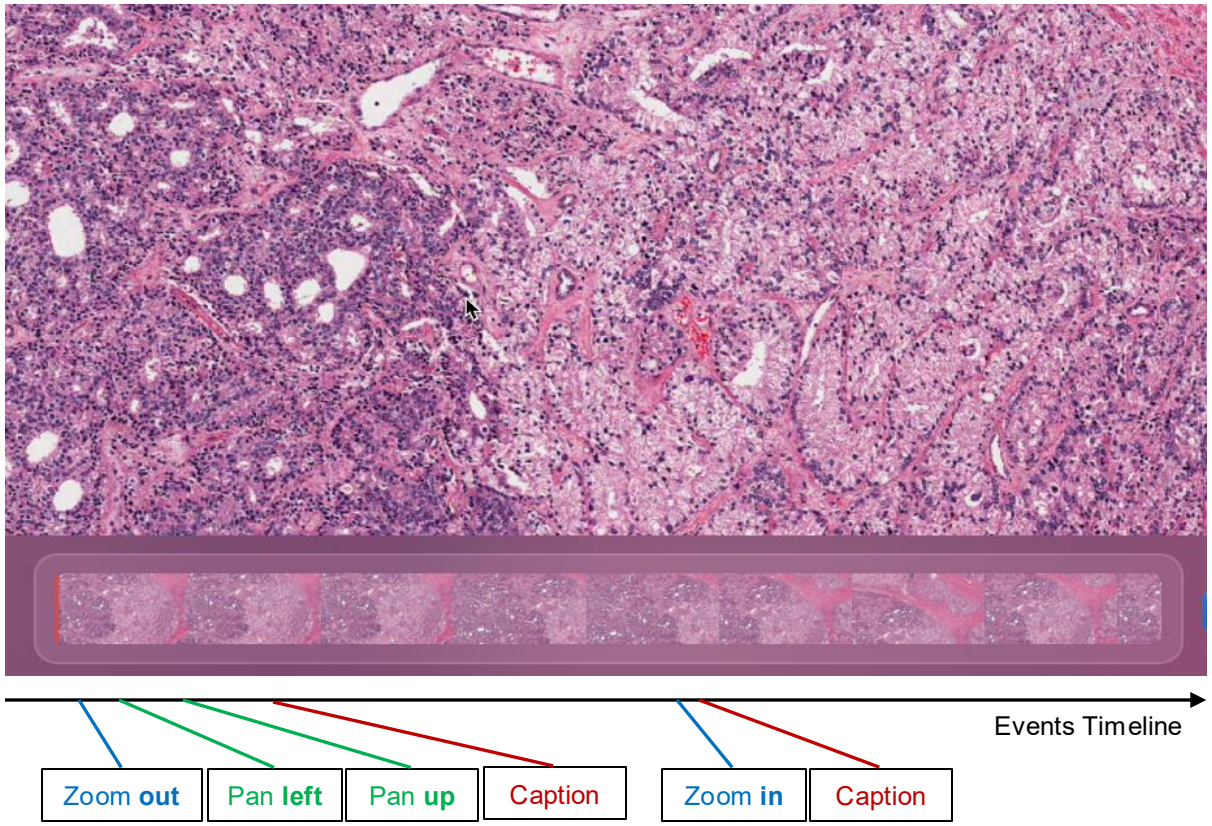


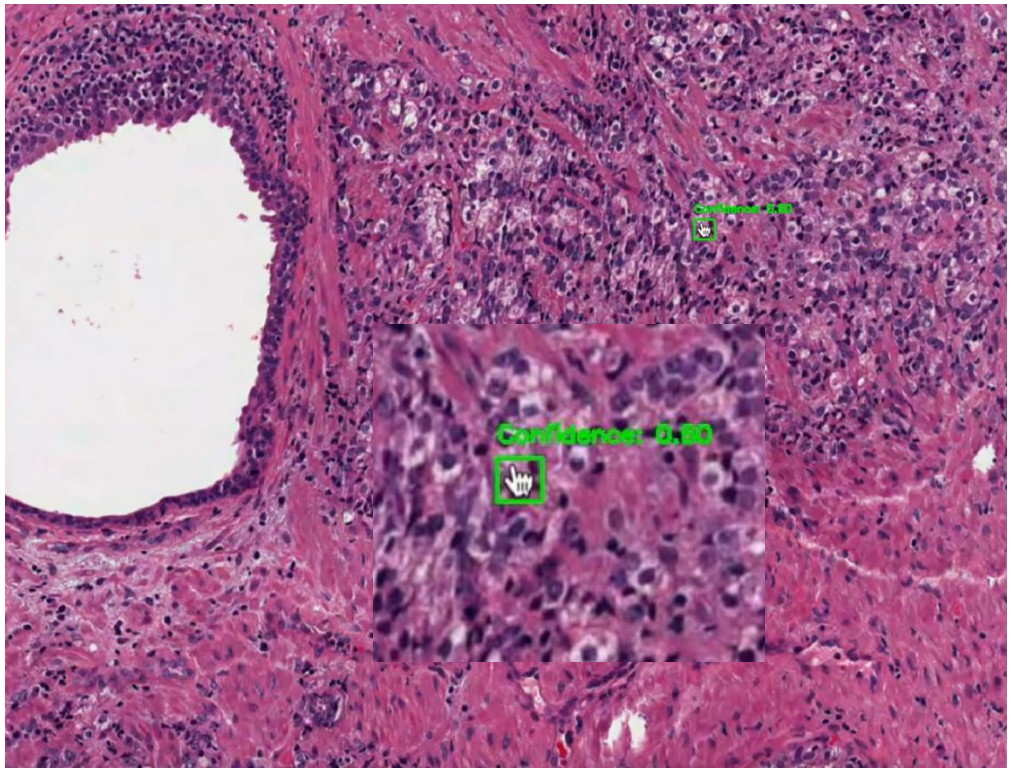
QuPath

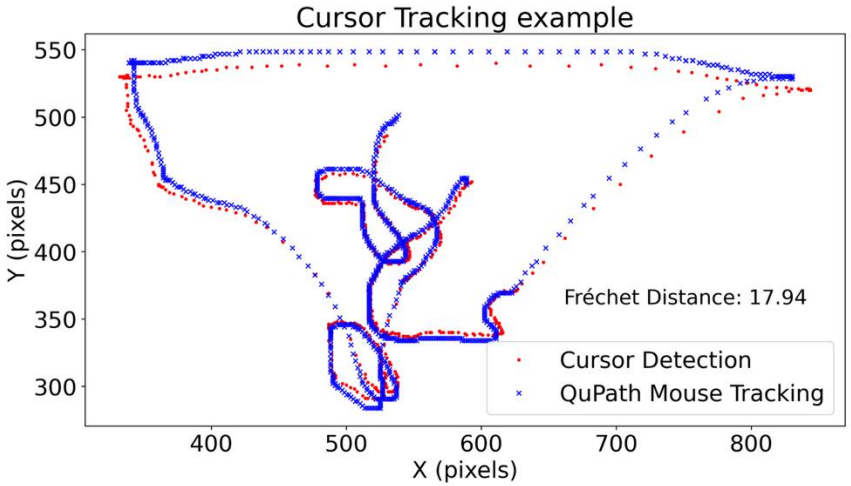
ChatGPT



Videos with captions


Events Timeline
Zoom out
Pan left
Pan up
Caption
Zoom in
Caption





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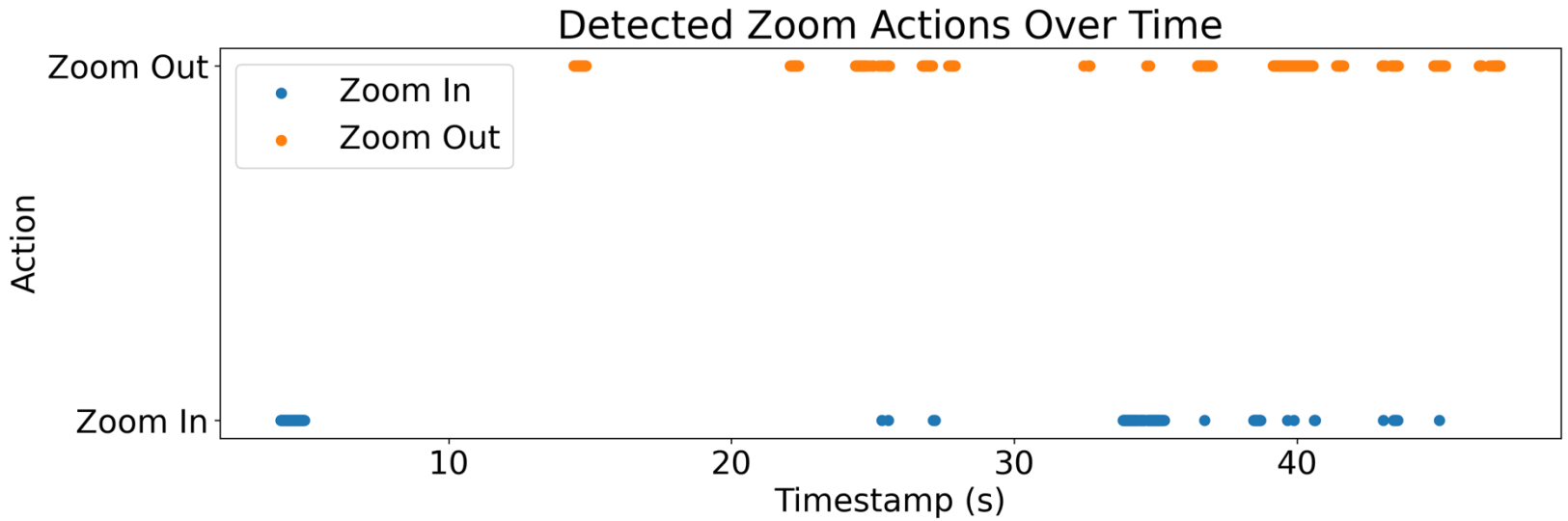

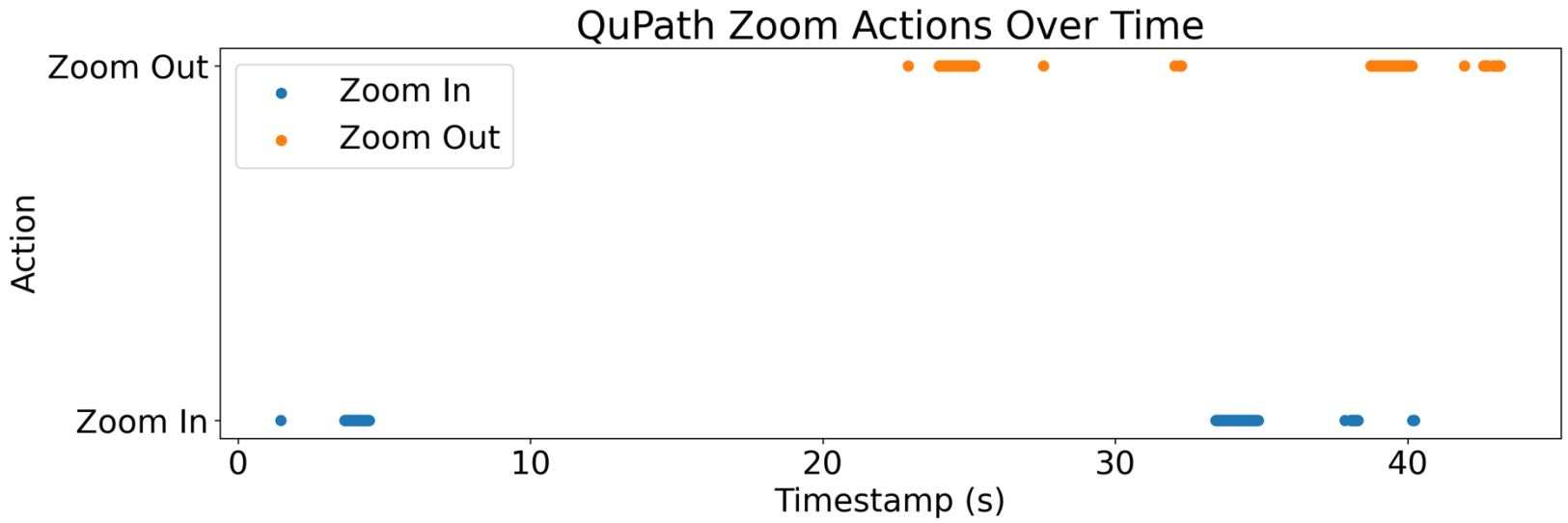

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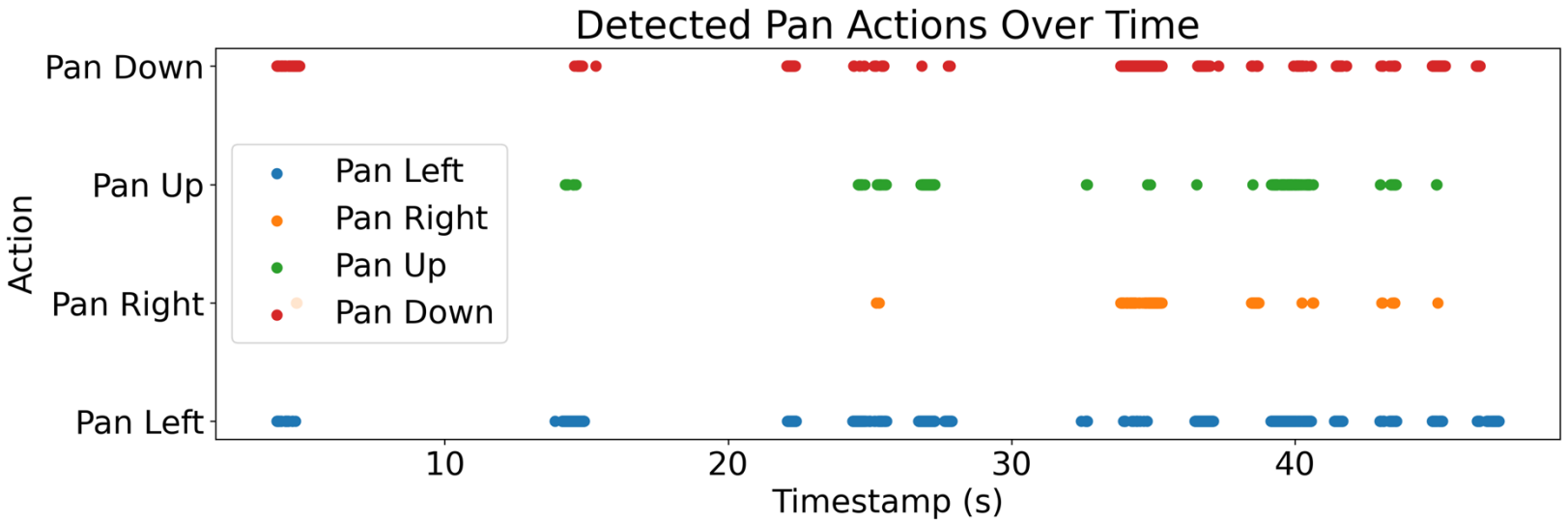

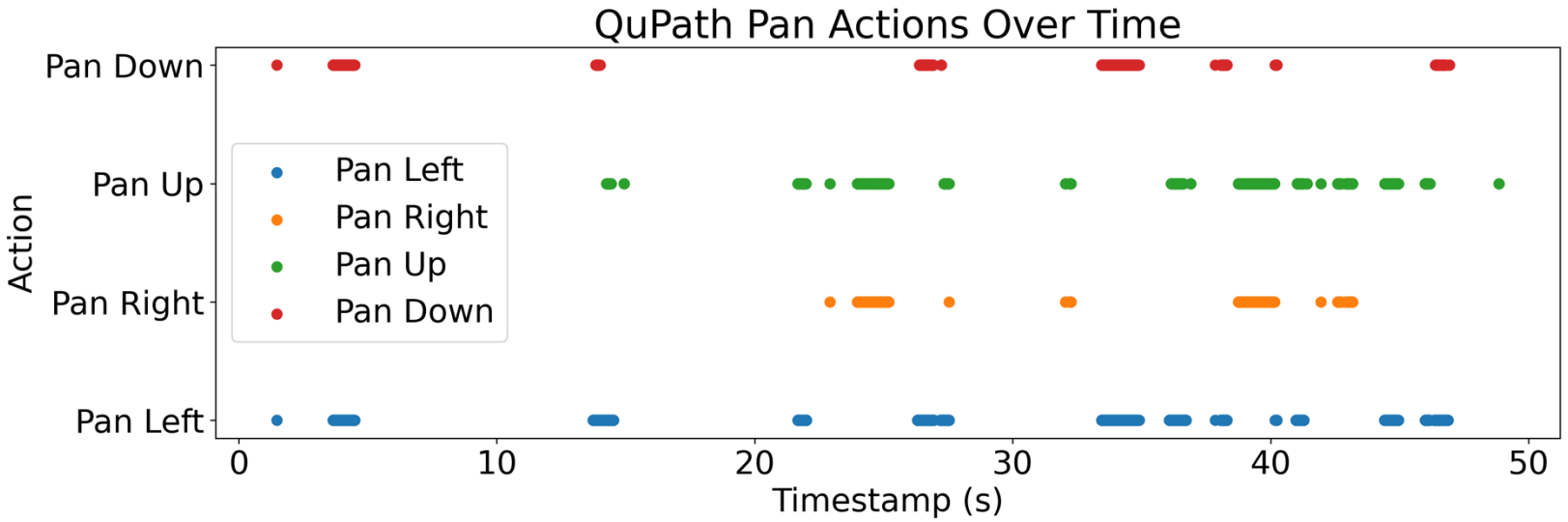

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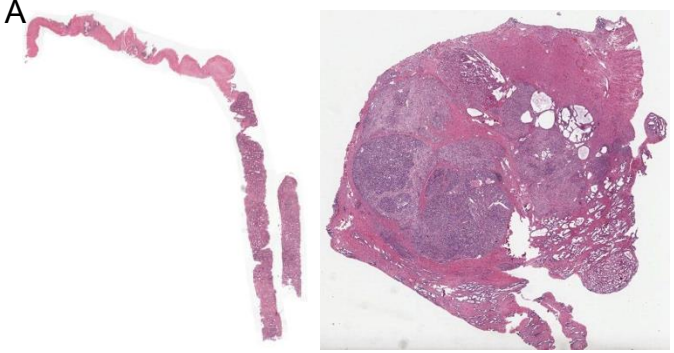
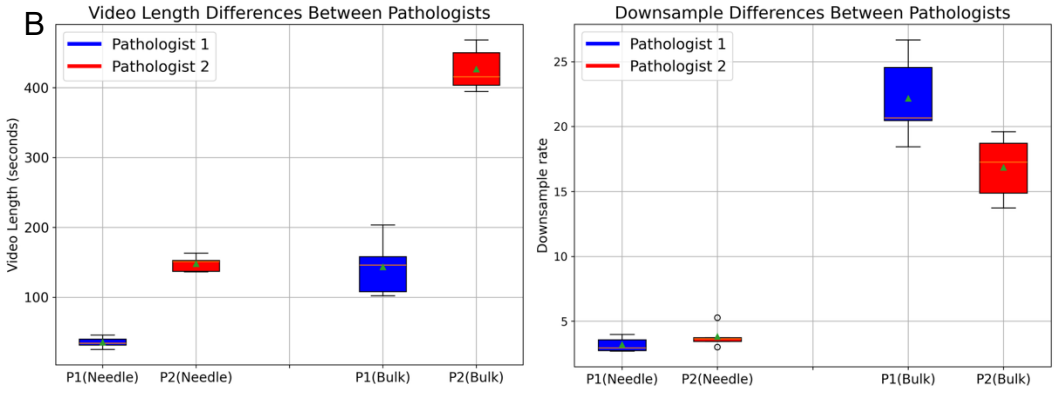
A



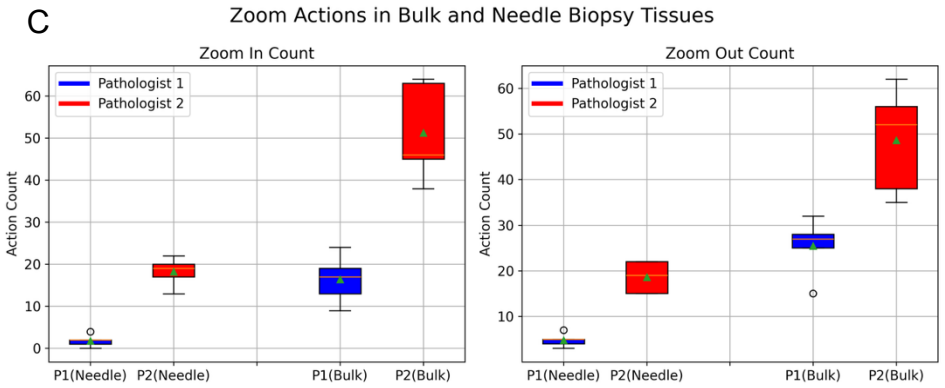
Needle tissue slide

Bulk tissue slide

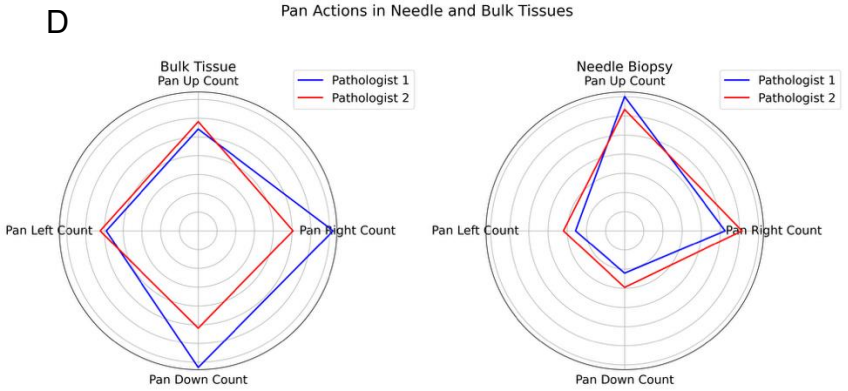
B



C



D



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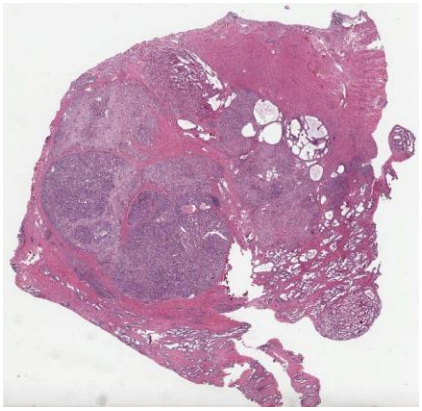
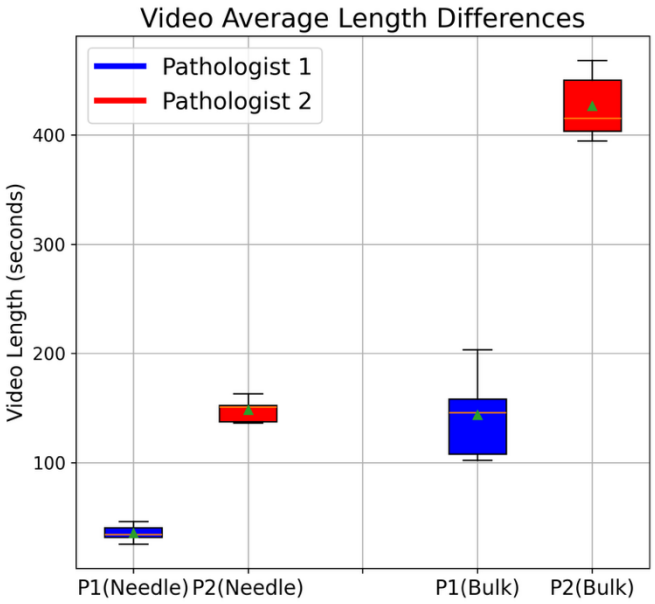
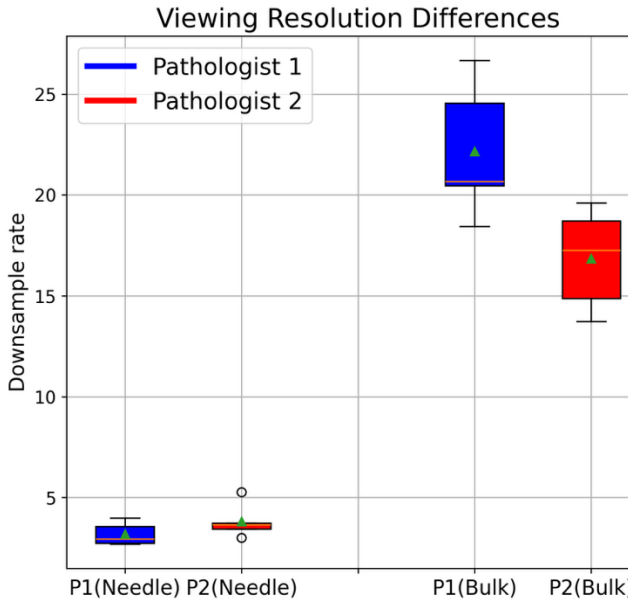
sue slide



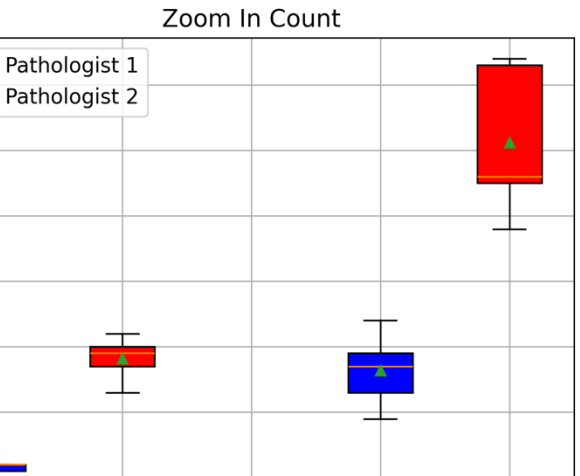
Bulk tissue slide

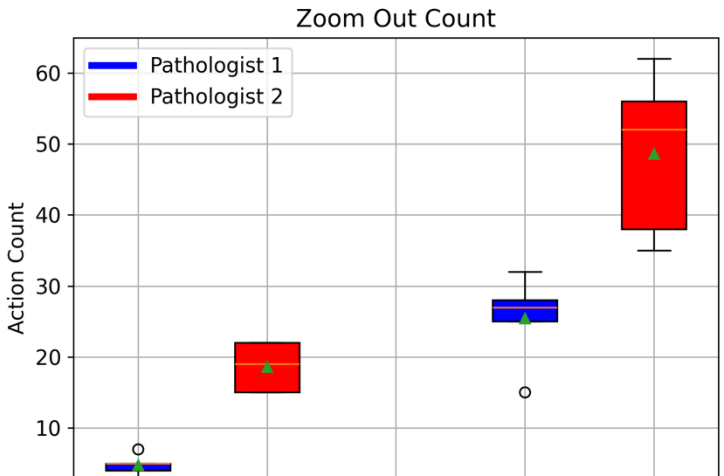


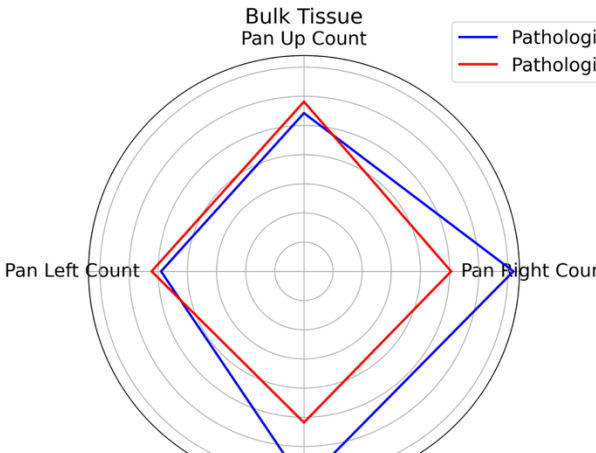


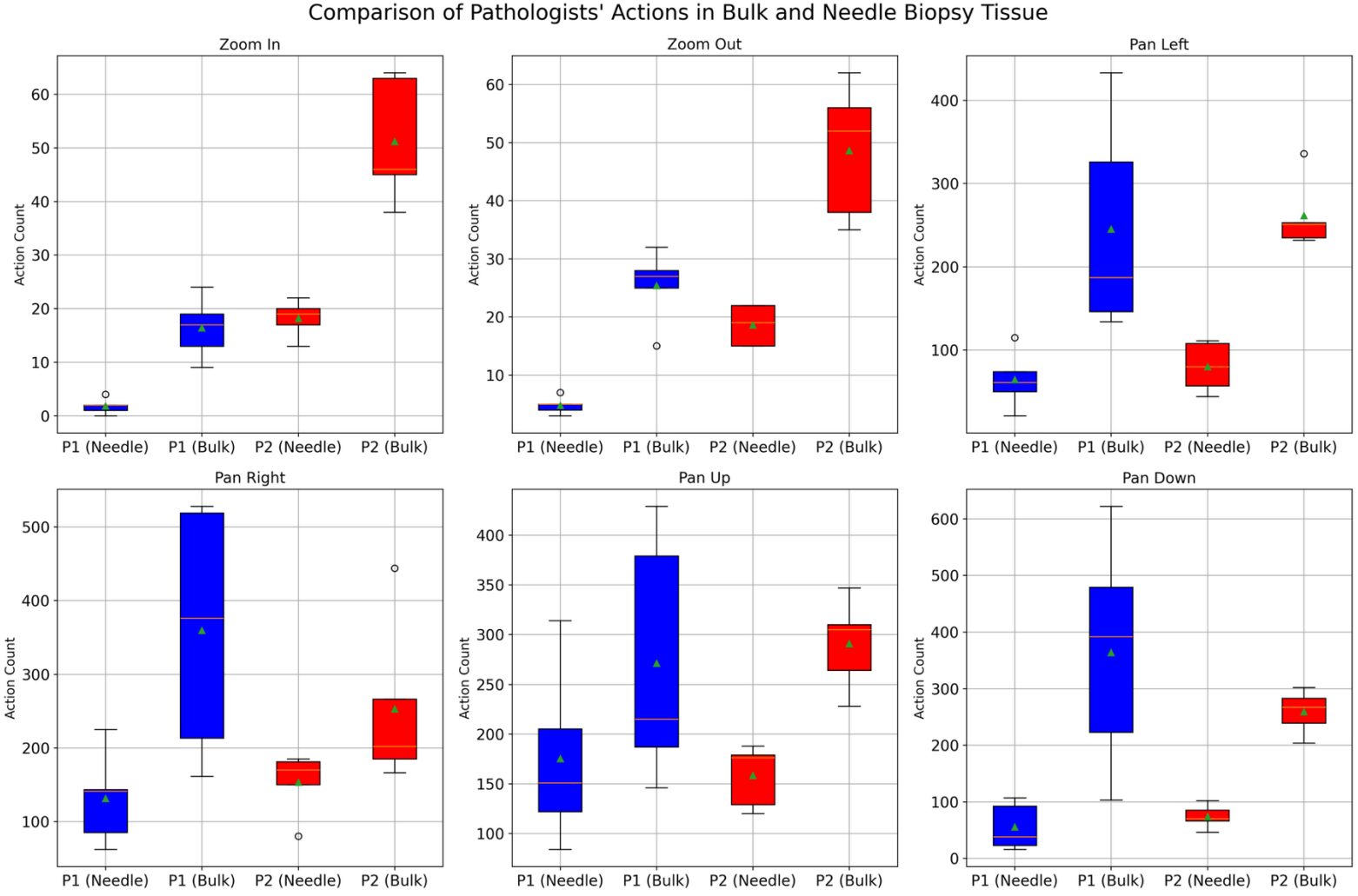
Zoom Actions in Bulk and Needle Biopsy Tissues

Pan Actions in









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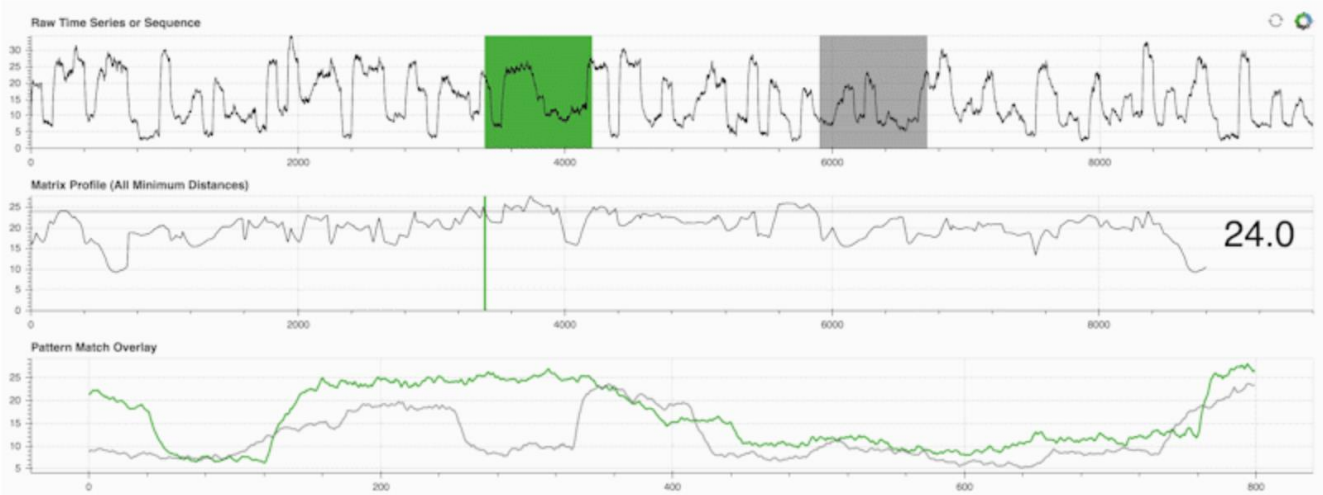
- Ghezloo, F., Chang, O.H., Knezevich, S.R. *et al.* Robust ROI Detection in Whole Slide Images Guided by Pathologists' Viewing Patterns. *J Digit Imaging. Inform. med.* **38**, 439–454 (2025). https://doi.org/10.1007/s10278-024-01202-x
  - Code: https://github.com/fGhezloo/ROI-Localization-melanoma/tree/main

The tool developed by the University of Washington is originally from HD view SL by Microsoft. But it has been renamed to SeaDragon.
https://github.com/openseadragon/openseadragon?tab=readme-ov-file

STUMPY

STUMPY is a powerful and scalable Python library that efficiently computes something called the matrix profile, which is just an academic way of saying "for every (green) subsequence within your time series, automatically identify its corresponding nearest-neighbor (grey)":



- **Predicting the Visual Attention of Pathologists Evaluating Whole Slide Images of Cance**
- Conference paper
- Medical Optical Imaging and Virtual Microscopy Image Analysis