Project Description and Pilot Study for A Pathologist-Annotated AI/ML Validation Dataset

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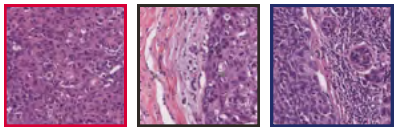
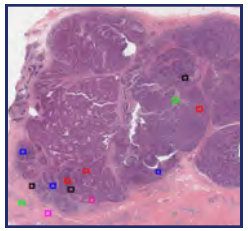
"We are crowdsourcing pathologists to collect data (images + pathologist annotations) that can be qualified by the FDA/CDRH medical device development tool program (MDDT). If successful, the MDDT qualified data along with a statistical software package for data analysis would be available to any algorithm developer to be used to validate their algorithm performance in a submission to the FDA/CDRH. "

1 Set up Nested Data:

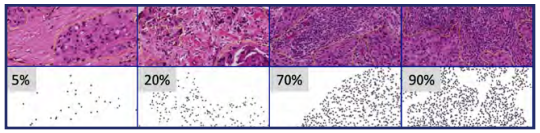
Slides / Regions of Interest
Tumor Infiltrating Lymphocytes (TILs)





2

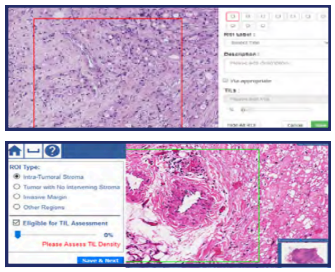
Task 1: Label the ROI
Task 2: Indicate Visual TIL Assessment Eligibility
Task 3: Record % TILs



Intra Tumoral Stromal
Invasive Margin
Tumor with No Stroma
Other

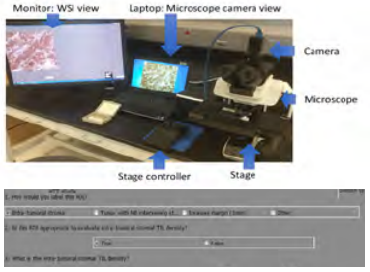
3 Digital Platforms:

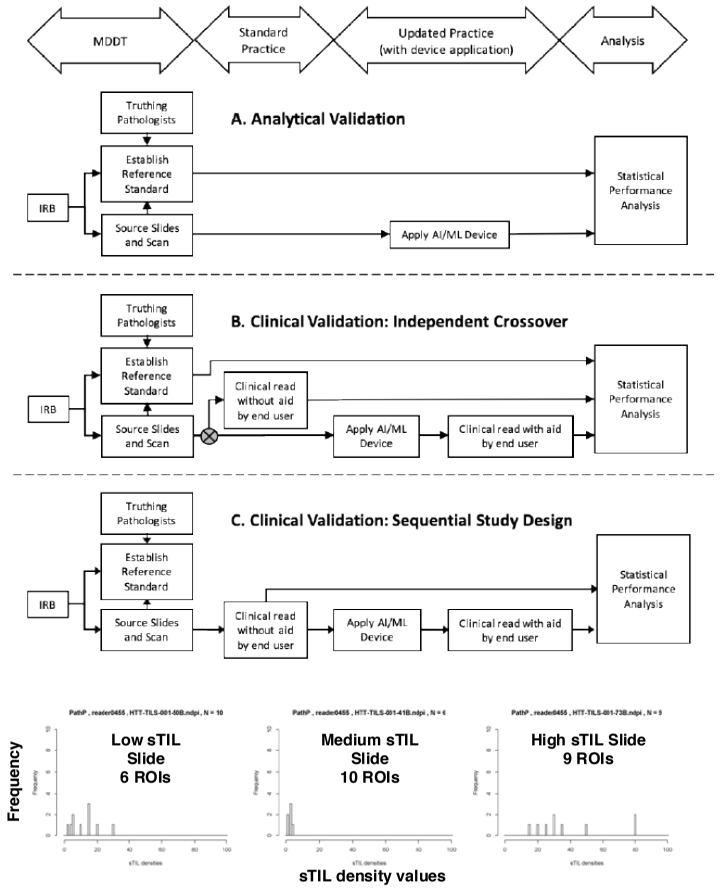
PathPresenter, caMicroscope



Microscope Platform:

eeDAP





SCAN ME

Setting:
- Breast cancer pathology biomarker
- Artificial Intelligence for digital pathology
- Need high quality validation

Objectives:
- Validation dataset of: Images + Slides + Annotations '
- Pursue CDRH Medical Device Development Tool (MDDT) for dataset

Regulatory Impact:
- Clarify issues related to validating algorithms.
- Provide example for others to follow.

Methods:
- Reference standard: Noisy truth by pathologists.
- Pathologist training
- Multiple international clinical sites (generalizable results)
- Multiple regions of interest (ROI) per case (correlated data)

Statistical analyses must account for
- Pathologist variability
- Correlated ROIs

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