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AI-LAB Pilot

June 23, 2020

AI-LAB NETWORK



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Primary Aim of Pilot Phase 1

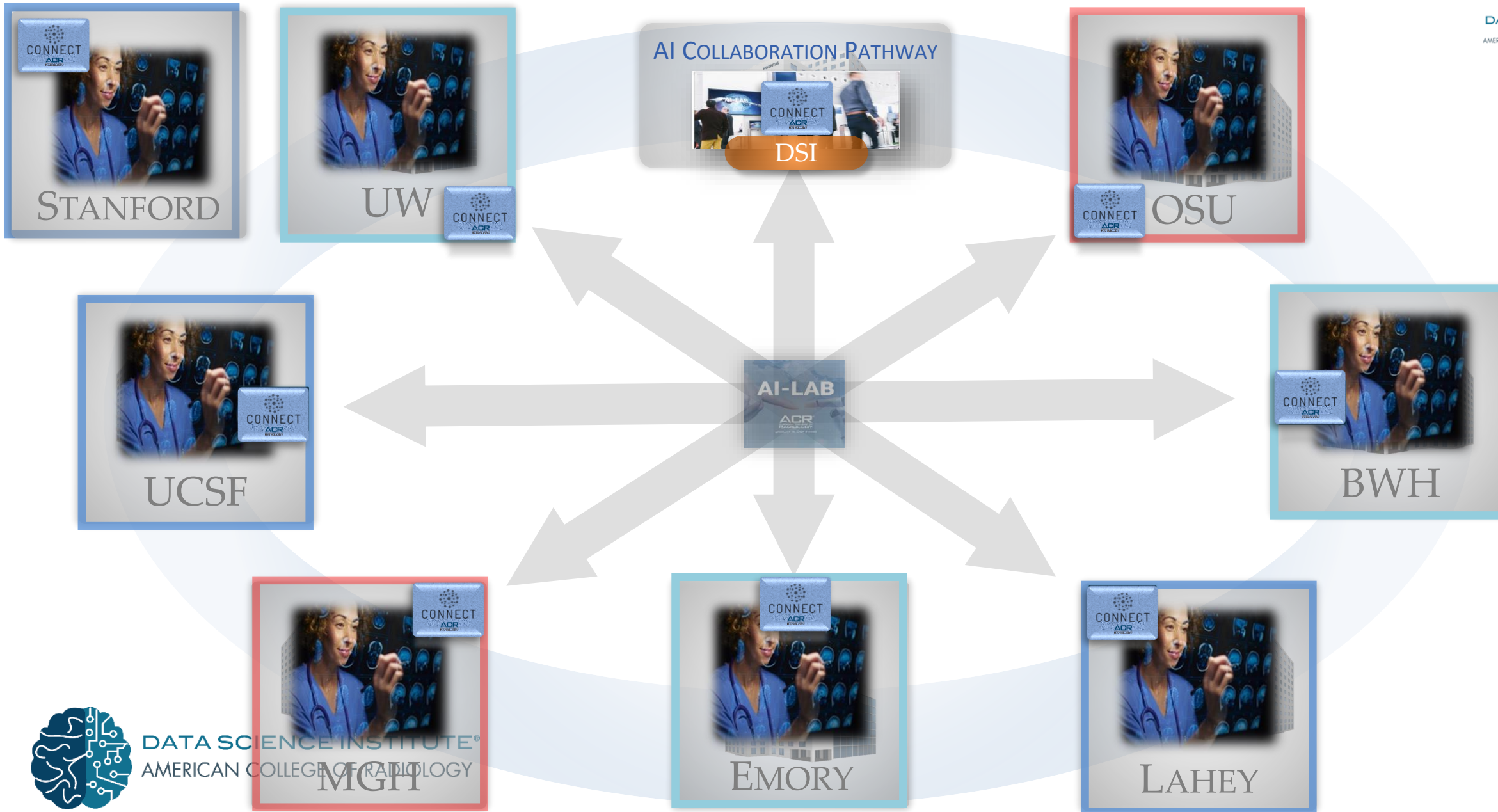
- Deploy software at multiple institutions
 - download and run an AI model
 - add new data from their own institution
 - update the model
 - share the results





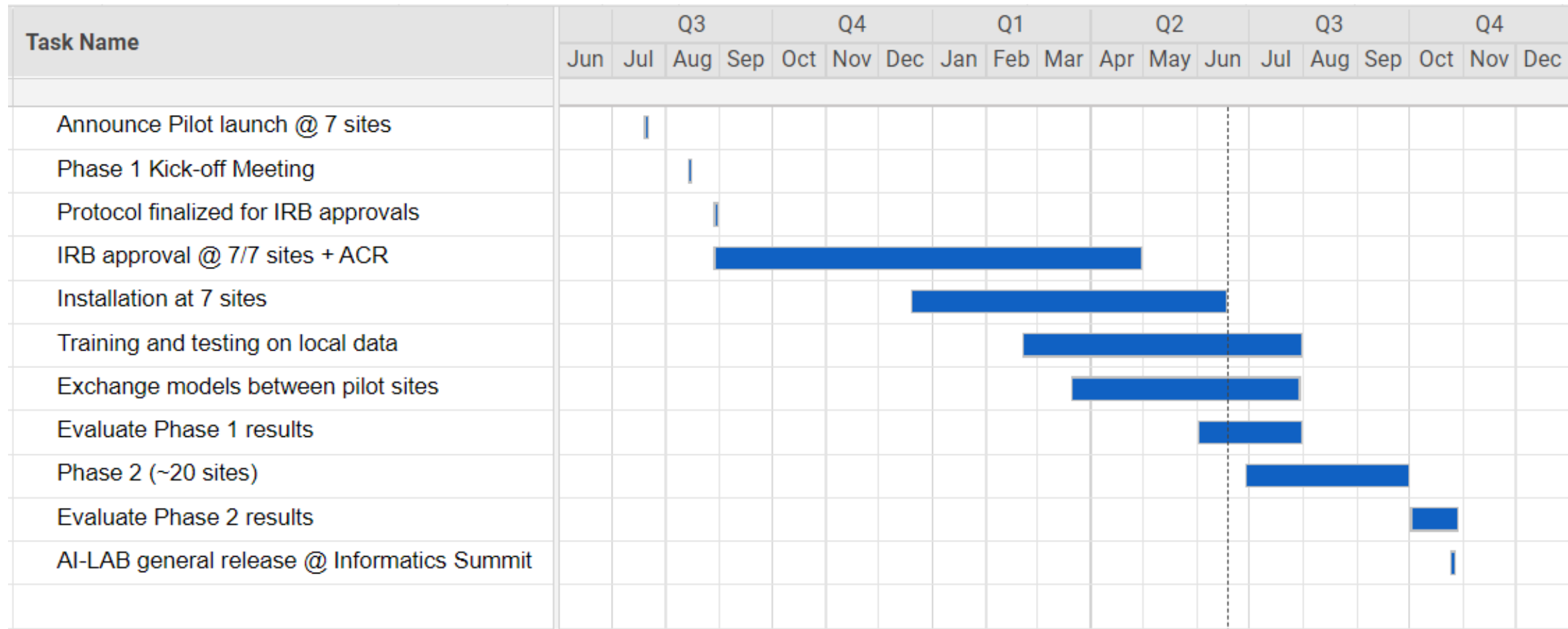
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7 AMC Pilot Consortium



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AI-LAB Pilot Project Plan



Breast Density

DART Common Admin Sharepoint ACR apps & links External Apps TBI links Assist DSI Connect\AI-LAB Covid youtube deep learn... Citrix Receiver Personal DICOM Imported from Chr...

AI-LAB MY ANNOTATIONS Laura HELP

Breast Density Breast Density 100 Valid

Not Annotated Annotated Total Annotated: 98/98

www/wc Invert zoom hflip VFlip Pan Reset Layout

Series Image ID: 361

Select a category:

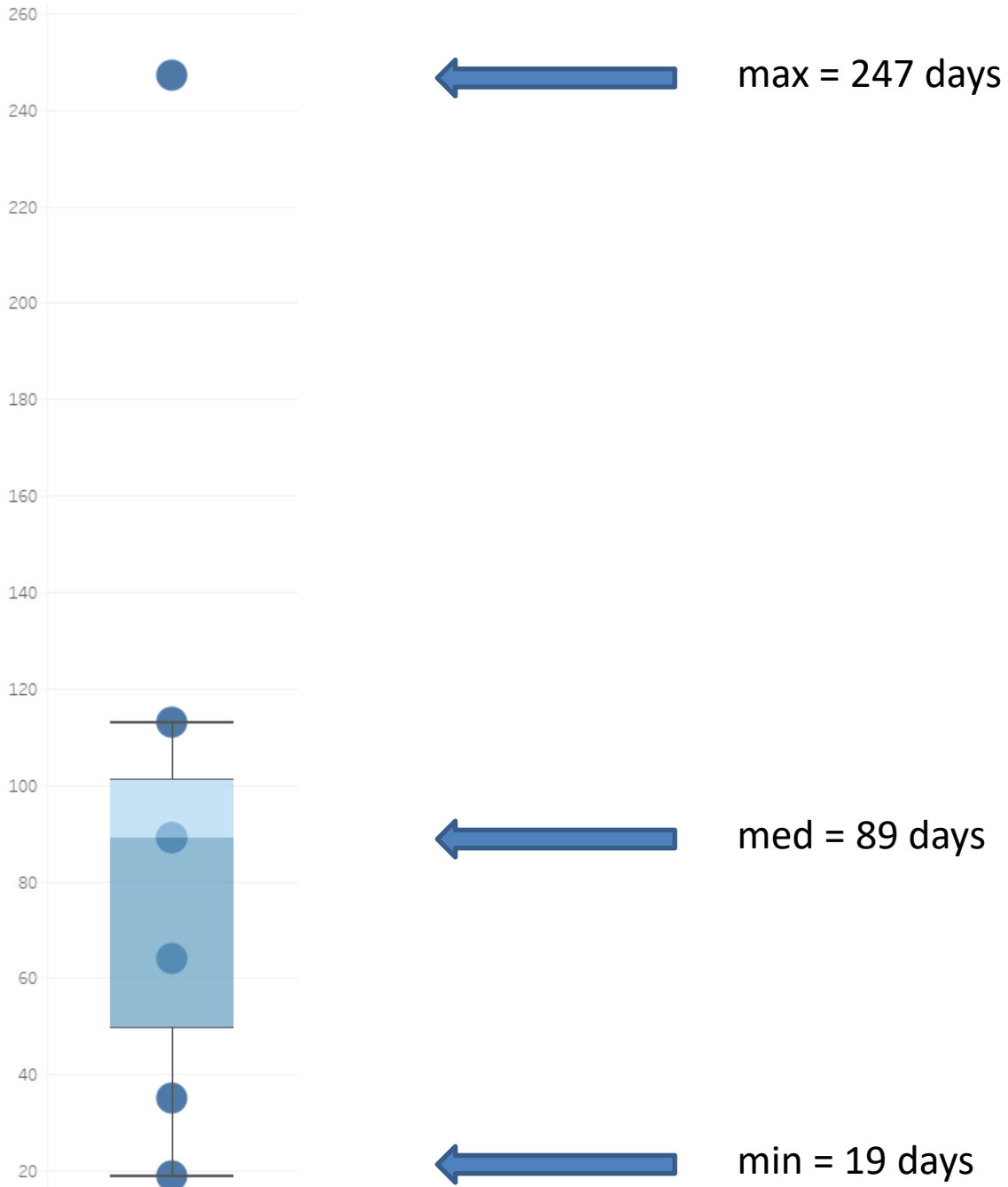
- 1 - Almost entirely fat
- 2 - Scattered fibroglandular densities
- 3 - Heterogeneously dense
- 4 - Extremely dense

Prev Next Save & Continue



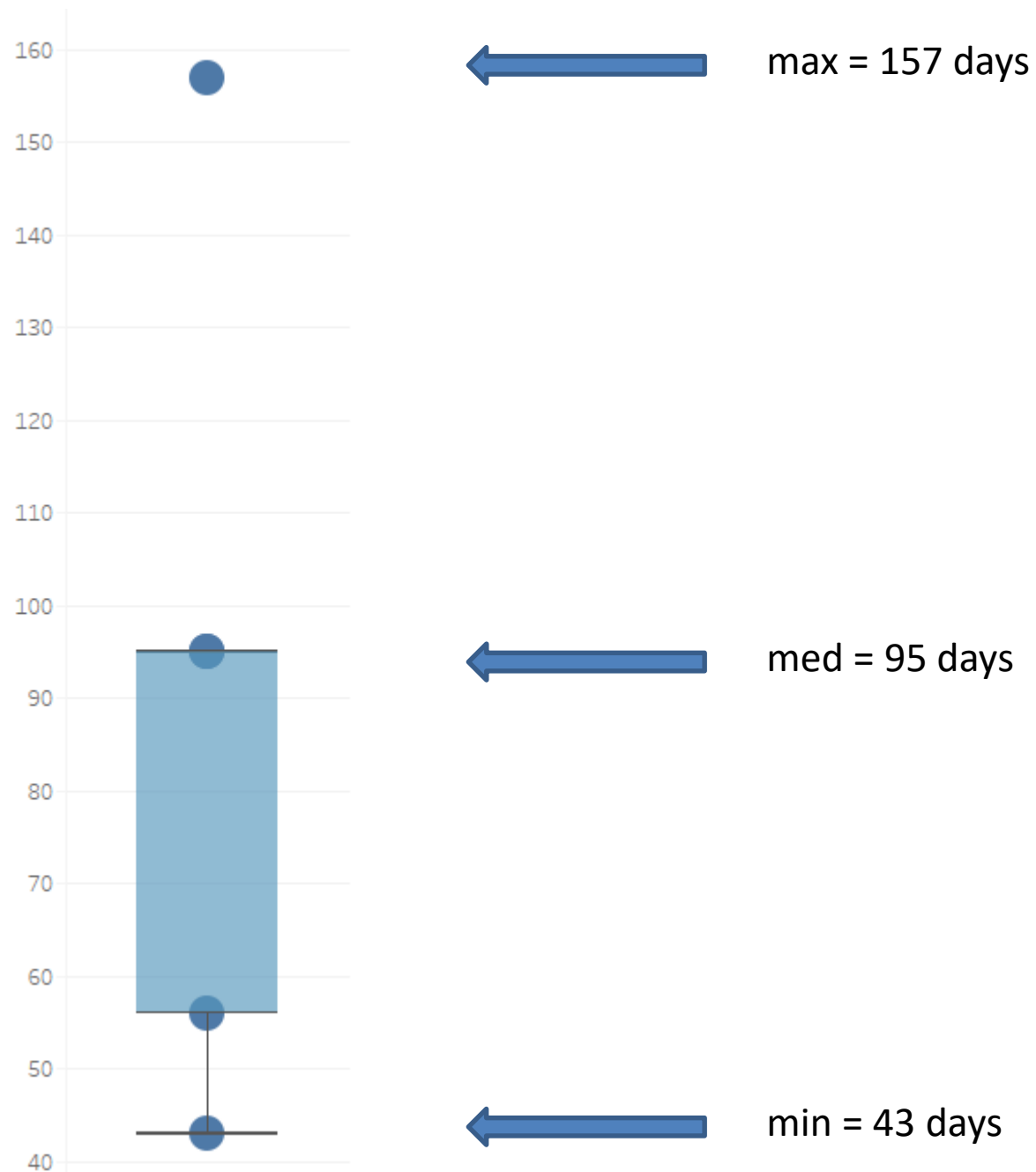


Days to IRB Approval





Days from IRB to Install



COVID-19

mrle_valid

Not Annotated

Annotated

Total Annotated: 0/9

- www/wc
- Invert
- zoom
- hflip
- VFlip
- Pan
- Reset
- Layout



Image ID: 1

Select a category:

Right Lung (extent) 1 - <25%

Right Lung (density) 1 - Hazy / GGO

Left Lung (extent) 0 - None

Left Lung (density) Select

mRALE 1

Override

Skip

Save & Continue

Severity Score

AI-LAB EVALUATE

- Home
- Learn
- Define
- Prepare
- Annotate
- Create
- Evaluate
- Run
- Models
- Publish
- Collaborate
- AI Community

Use Case
COVID-19

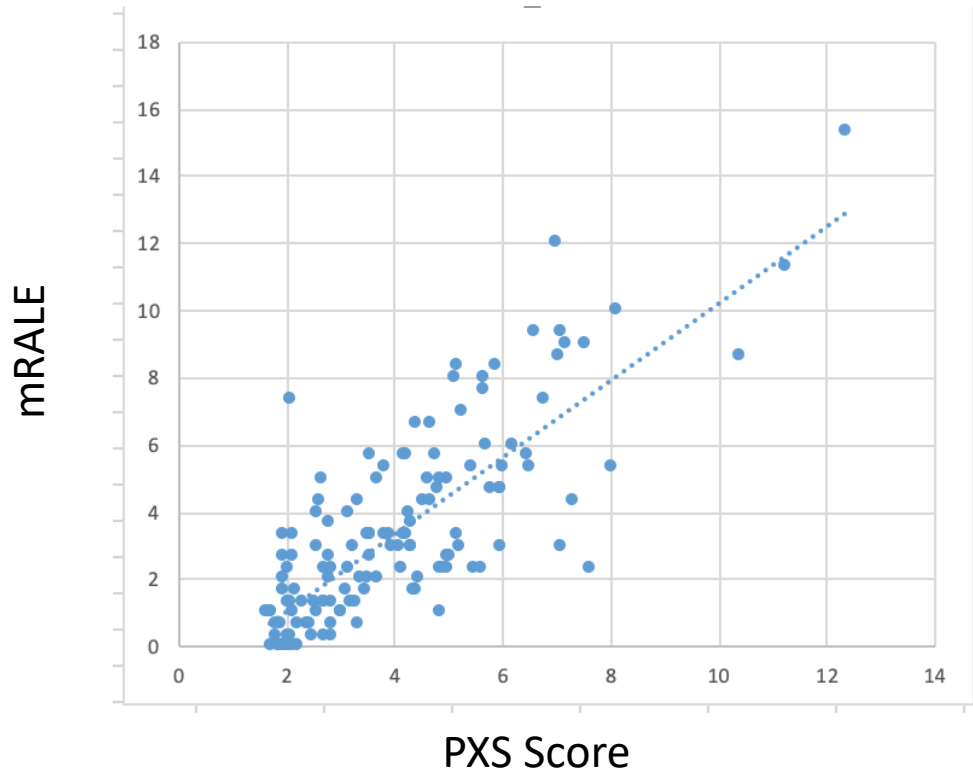
Model
COVID-19

Validation Data Set
Covid19-Regression

[Evaluate Model](#)

Evaluations ?

Date	Model	Data Set	User	Status	
06/19/2020 18:11:38	COVID-19	Covid19-Regression	lcoombs@acr.org	Completed	Upload



Lessons Learned



Pilot Phase 2

- Pneumonia\COVID:
 - Detection - bounding box.
 - Base model provided
 - Everyone annotates 1000 cases
- Breast Density: Distributed Learning
 - Cyclical weight transfer; federated average weights; split learning
 - Start with a base model; test all 3 approaches

