

NEW TOOLS FOR PNEUMONIA DIAGNOSIS

Flatiron Health Technology

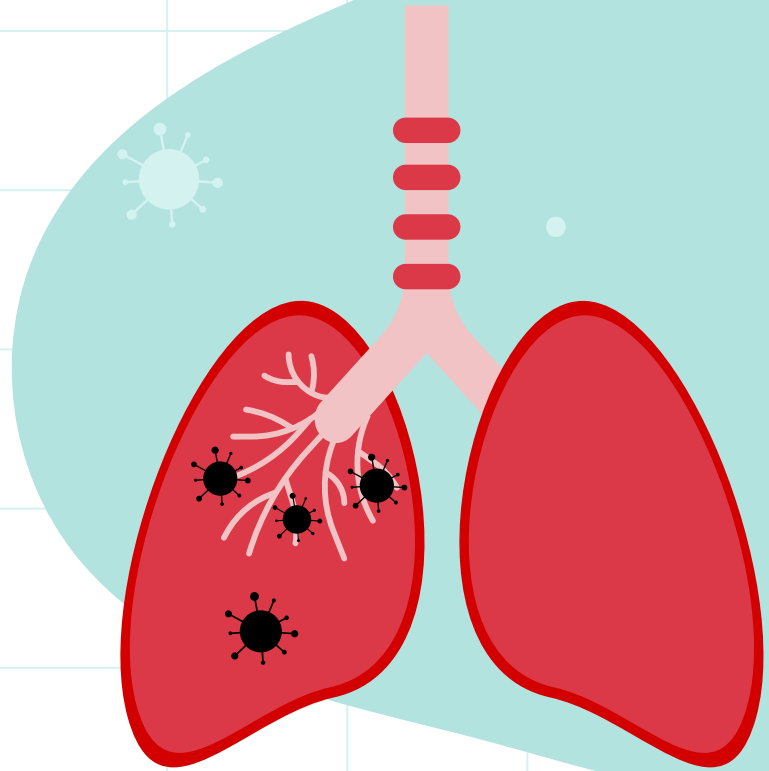


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01

PNEUMONIA

What you need to know and why it's so serious



DIAGNOSIS

There are a number of ways to diagnose pneumonia but the most common is with a chest X-ray

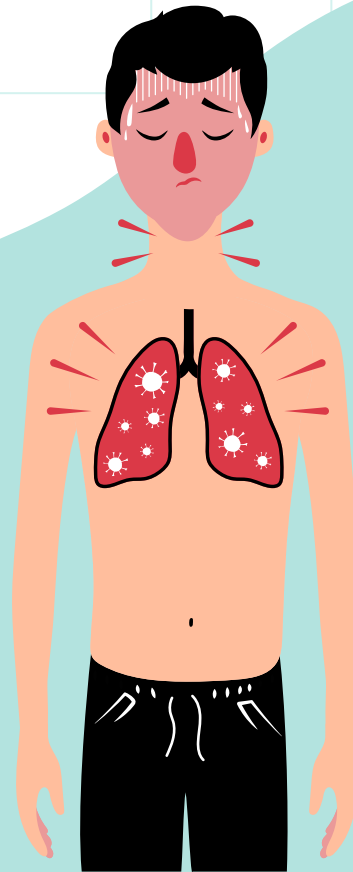


THE DATA

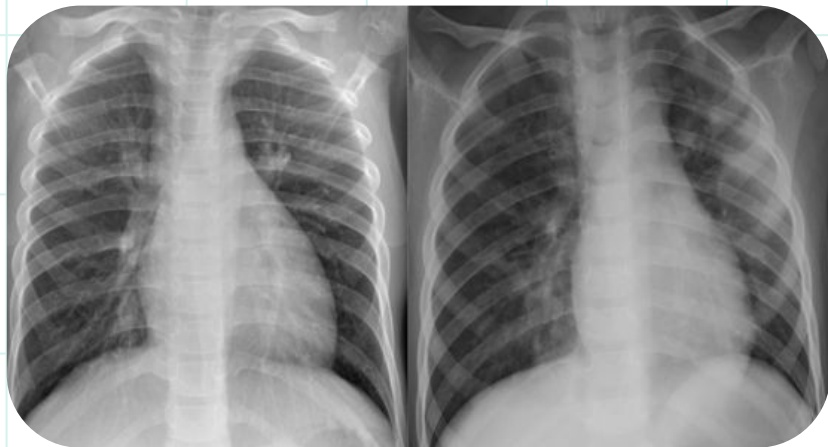


5,863 PEDIATRIC CHEST X-RAYS

Compiled by a team from the University of California San Diego and the Guangzhou Women and Children's Medical Center



THE DATA

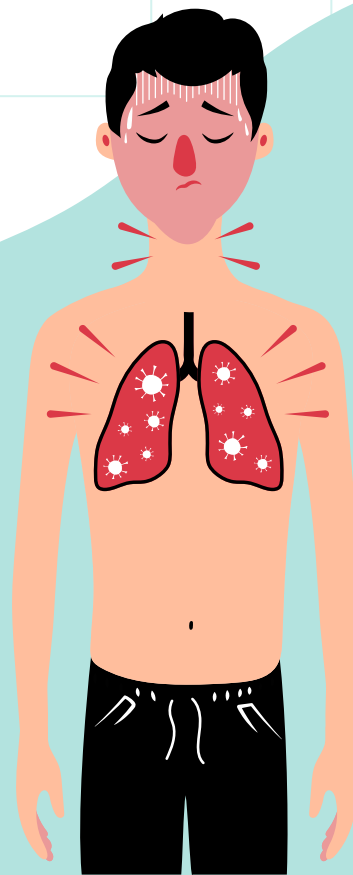


Healthy

Pneumonia

5,863 PEDIATRIC CHEST X-RAYS

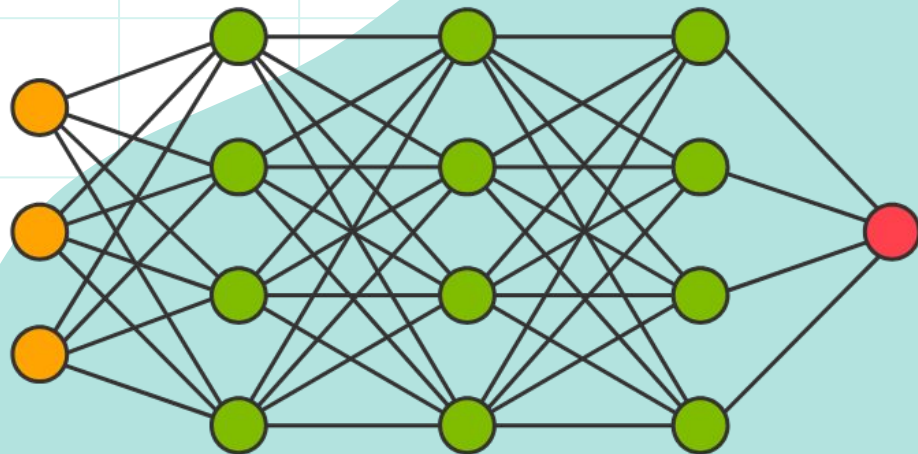
Compiled by a team from the University of California San Diego and the Guangzhou Women and Children's Medical Center



MODELING

DUMMY SCORES

- Recall: 100
- Accuracy: 75



MODELING

ASPECTS WE TUNED

- Convolutional
- Regularization
- Learning rate
- Image augmentation
- Resolution



RESULTS

VALIDATION SCORES:

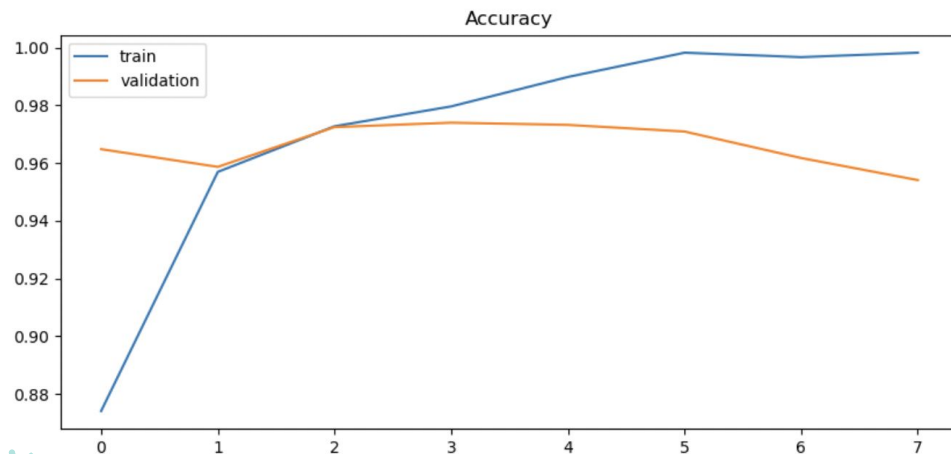
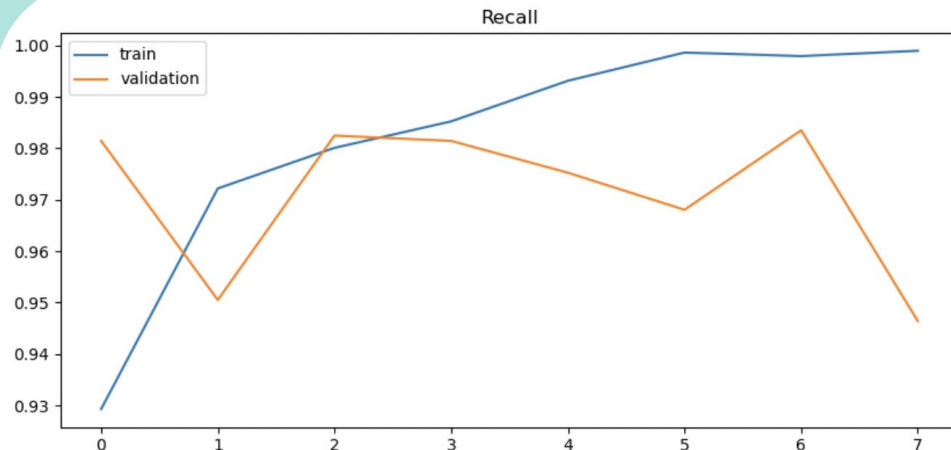
RECALL: 99.4

ACCURACY: 95.6

TEST SCORES:

RECALL: 99.5

ACCURACY: 84.8

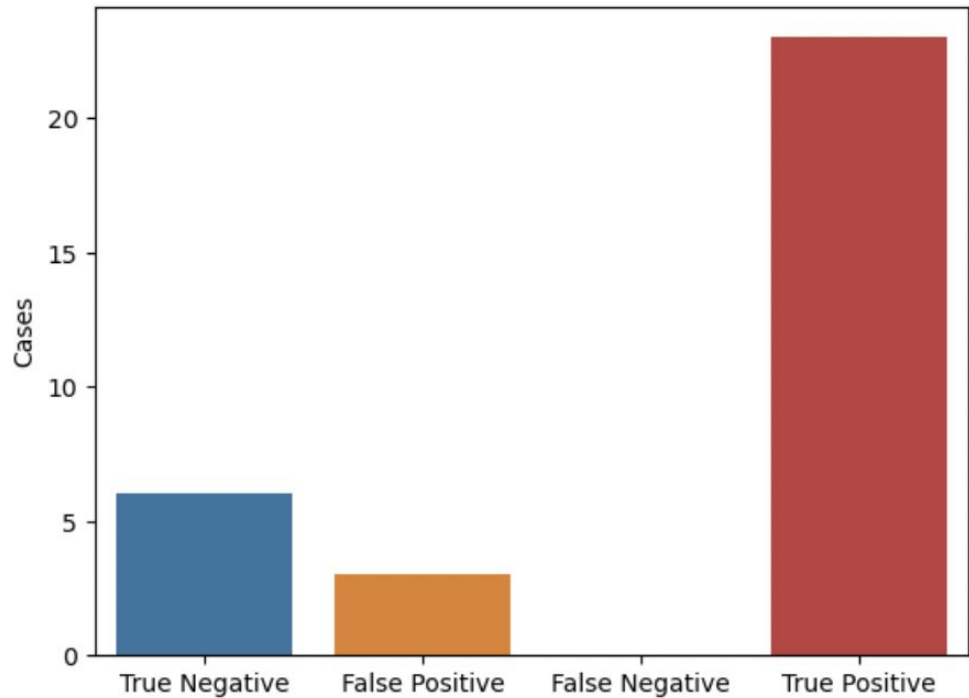


RESULTS



PREDICTION BREAKDOWN

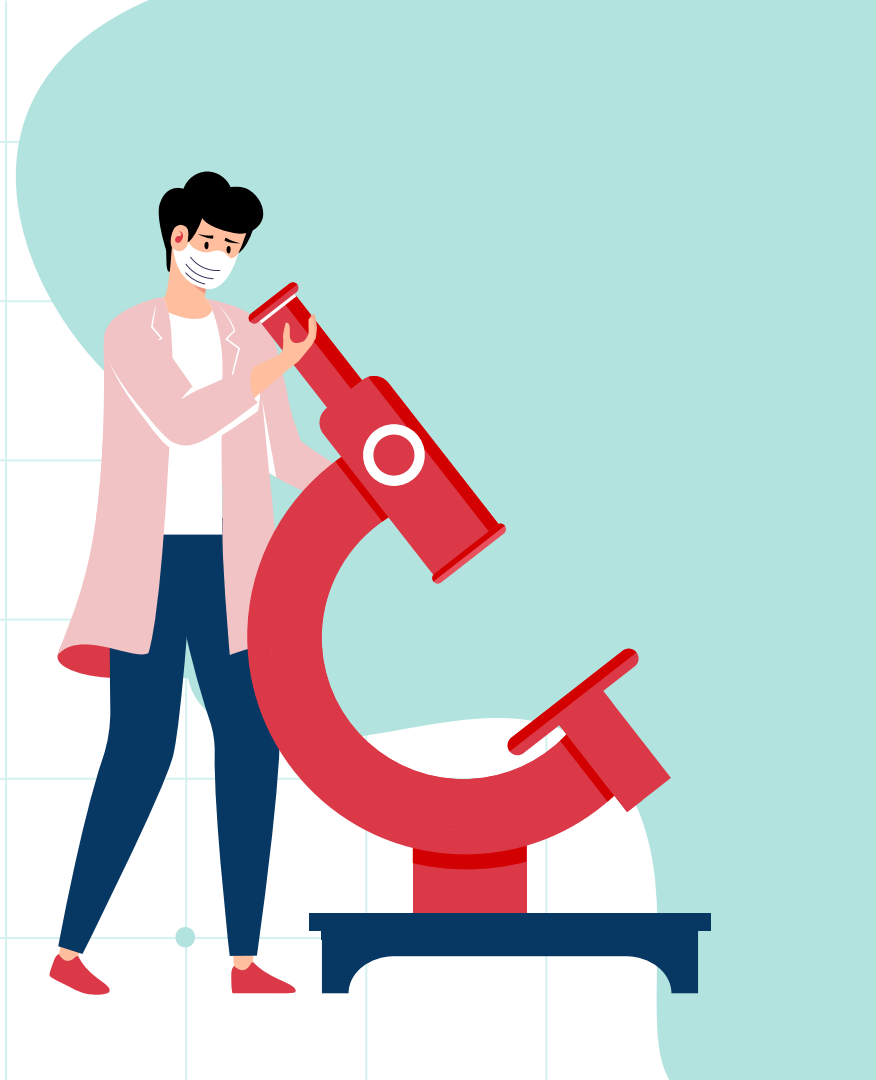
Accuracy of our predictions from a
single batch of size 32





NEXT STEPS

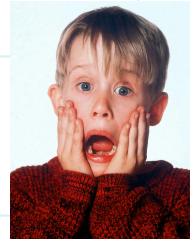
- Improving workflow
- Viral vs bacterial
- Broader Dataset



THANKS!



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