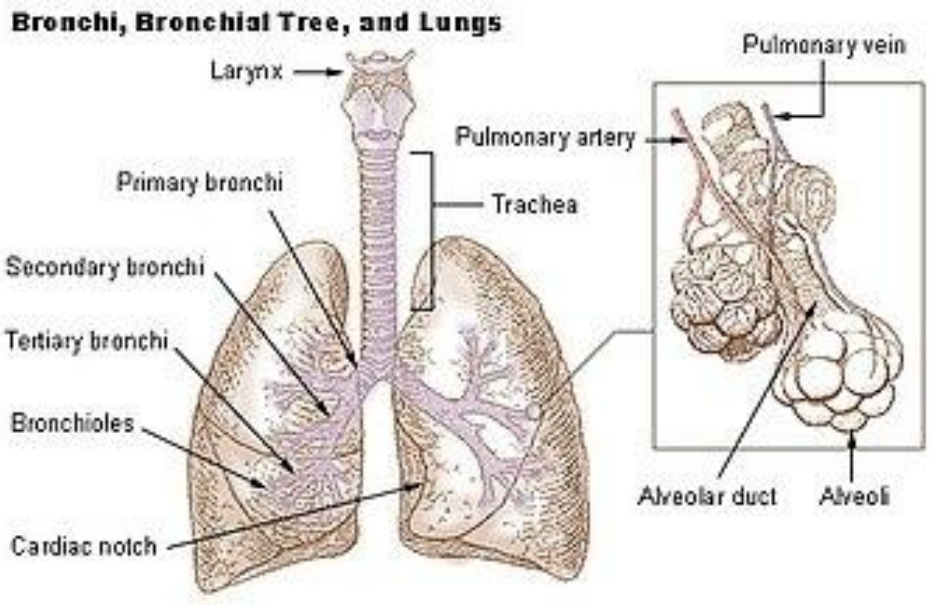
Pneumonia Identification via X-Ray Image Processing

Project by Isabella Scribner

Overview

- Pneumonia, UNICEF, + Neural Labs Africa
- Proposed Business + Project Goals
- The Data
- The Final Model
  - Description
  - Evaluation
- Recommendations

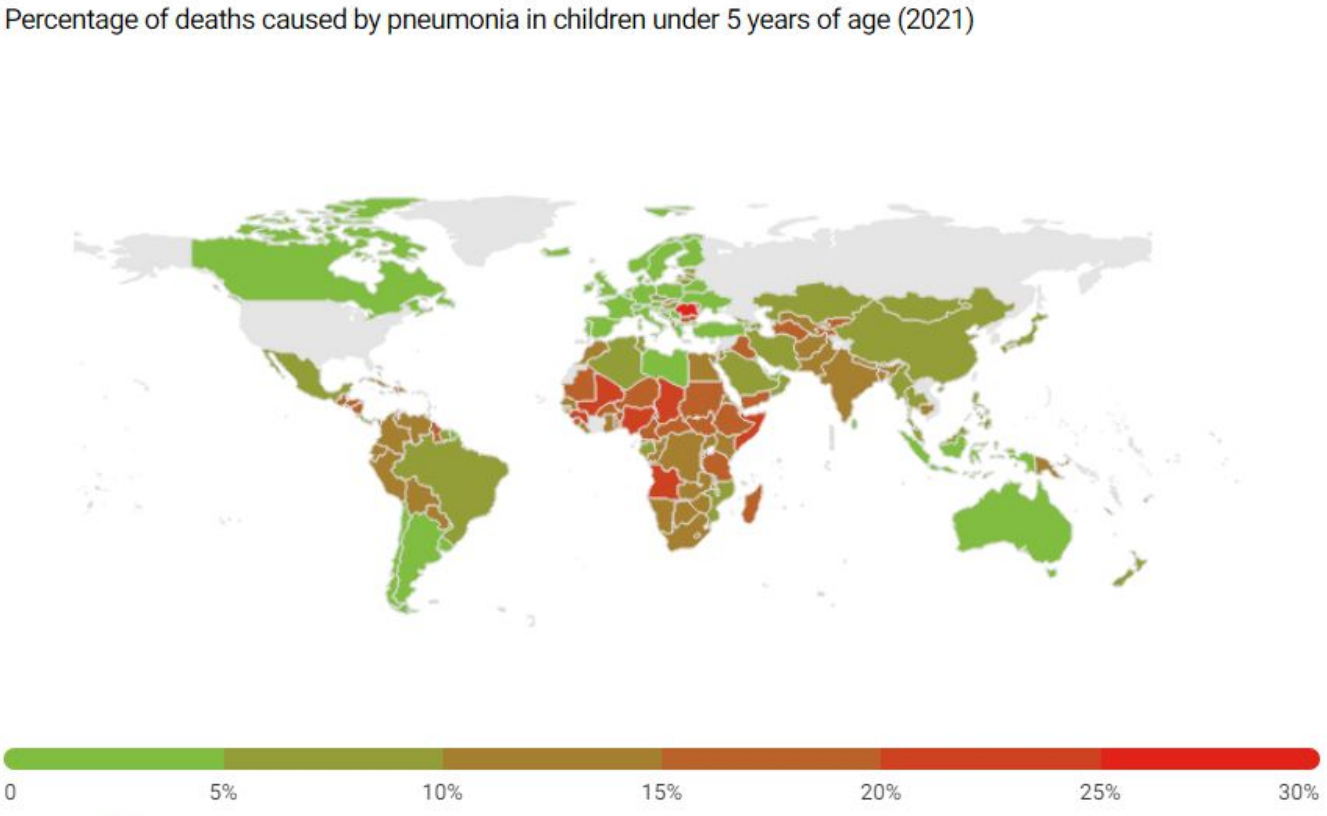
Pneumonia, UNICEF + Neural Labs Africa



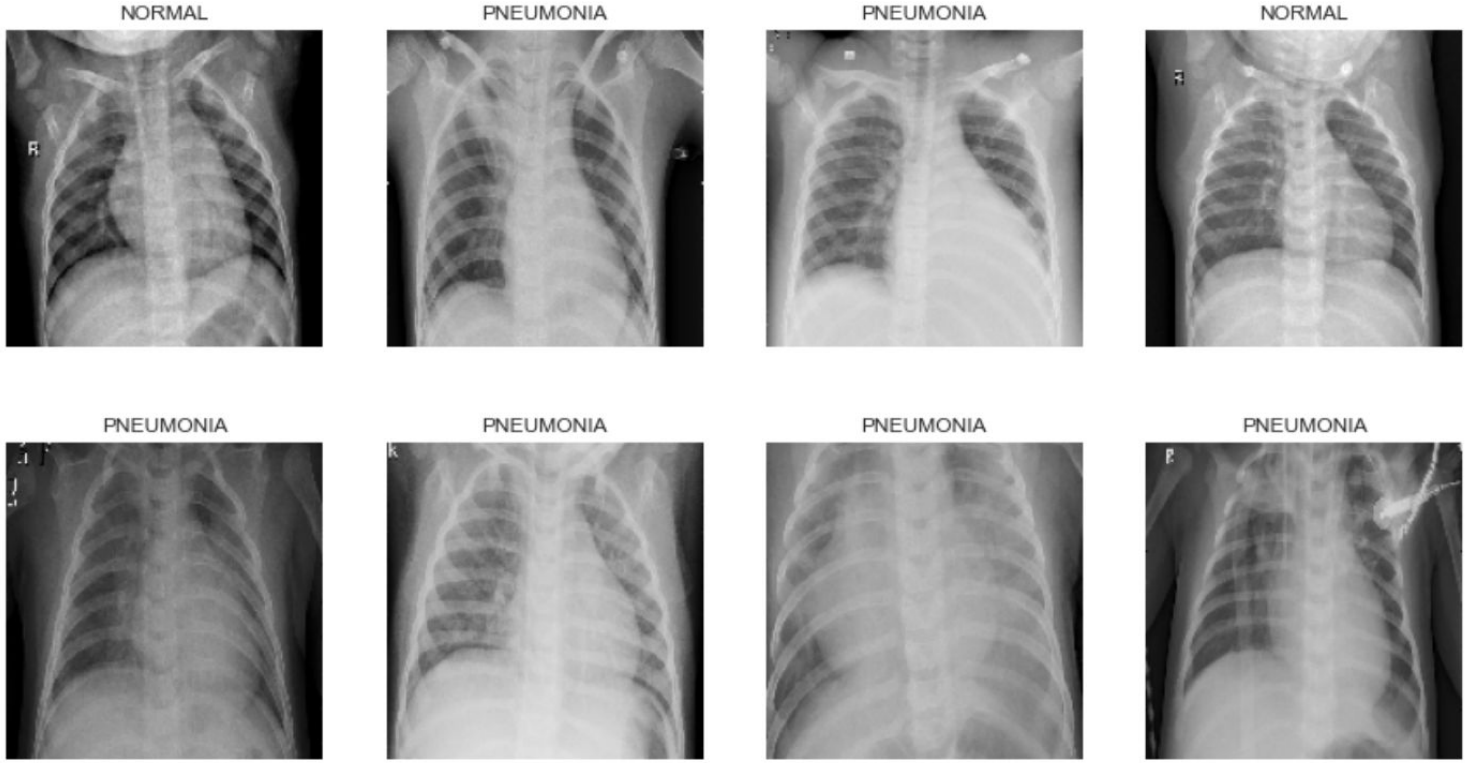
- 725,000 pediatric deaths per year
- Southern Asia + sub-Saharan Africa
- UNICEF Venture Fund
- Neural Labs Africa → NeuralSight for Chest Imaging

Business + Project Goals

- Nonprofit organization – expand access to healthcare
- Project: pneumonia diagnosis



The Data


NORMAL
PNEUMONIA
PNEUMONIA
NORMAL
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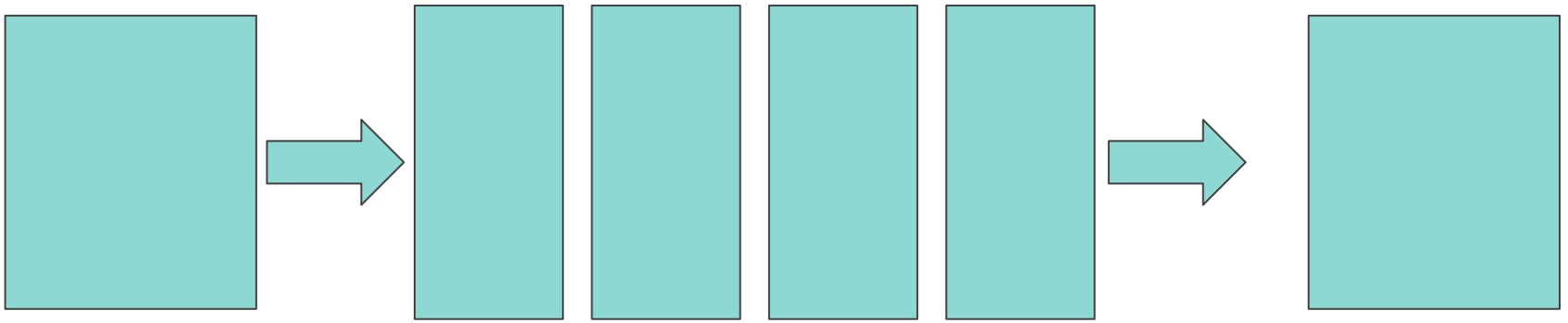
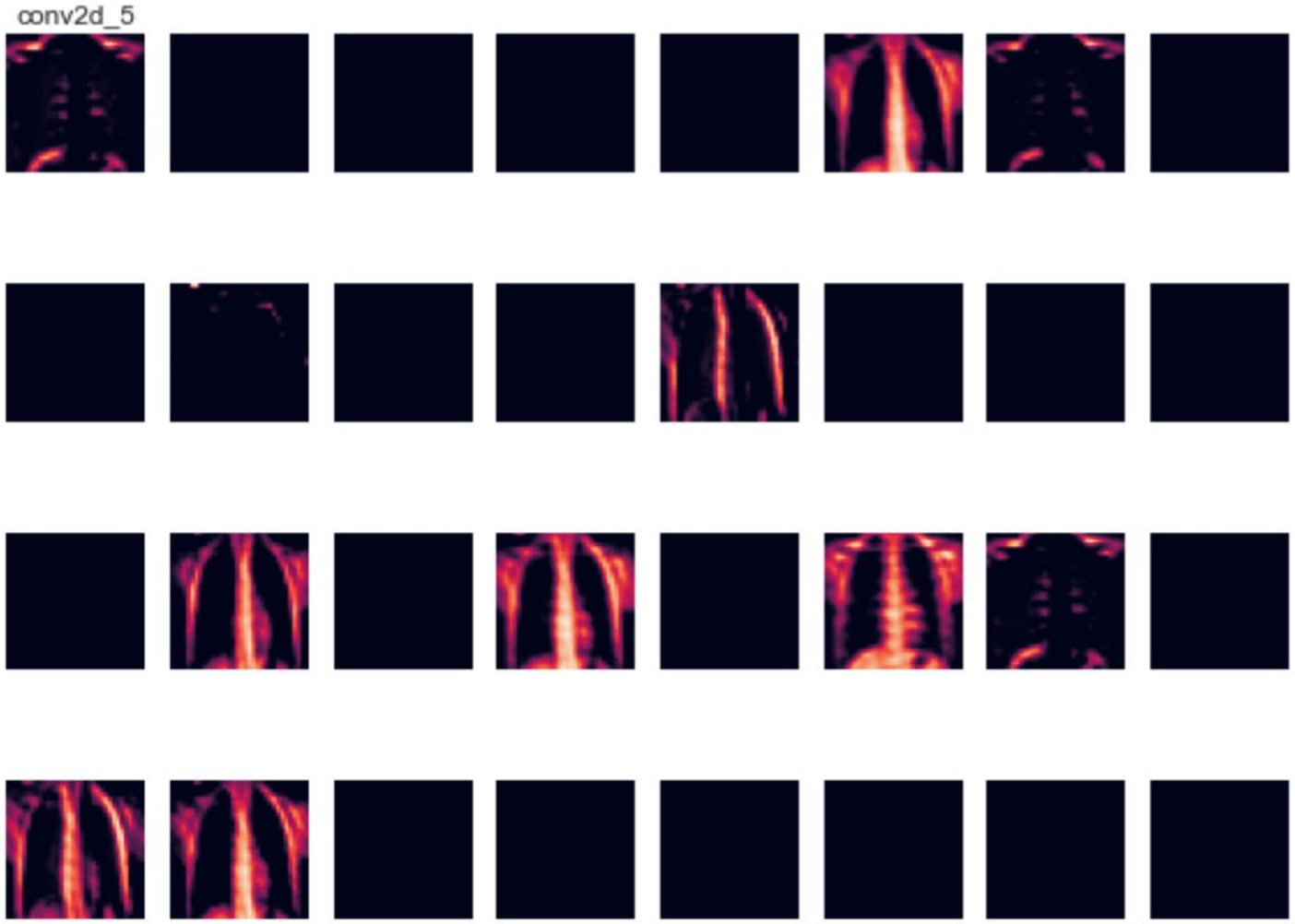
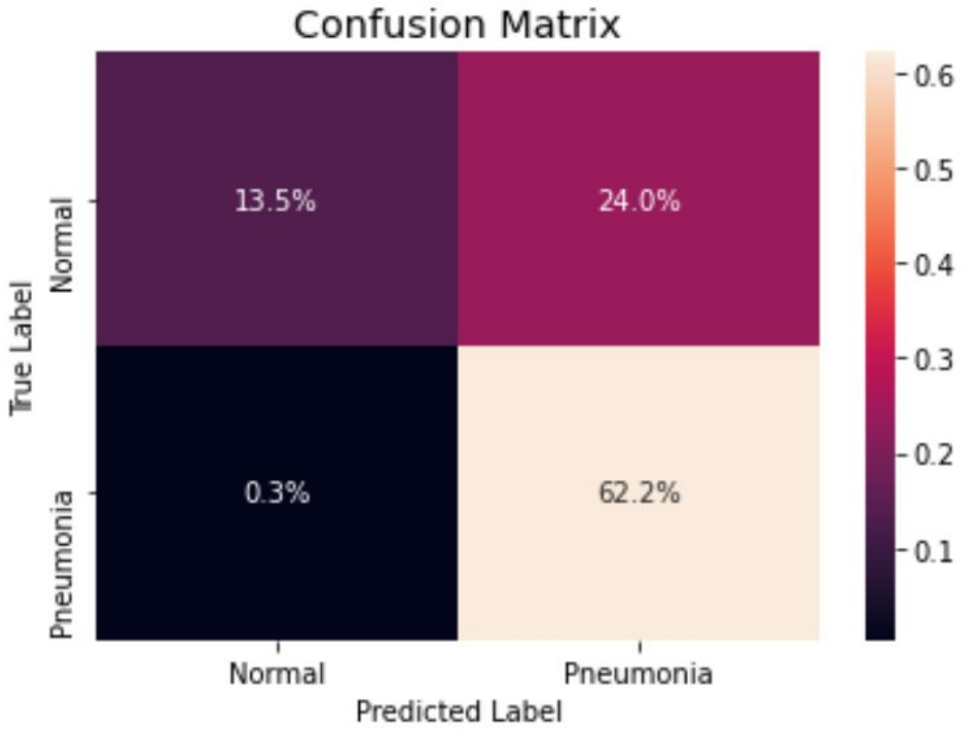
PNEUMONIA

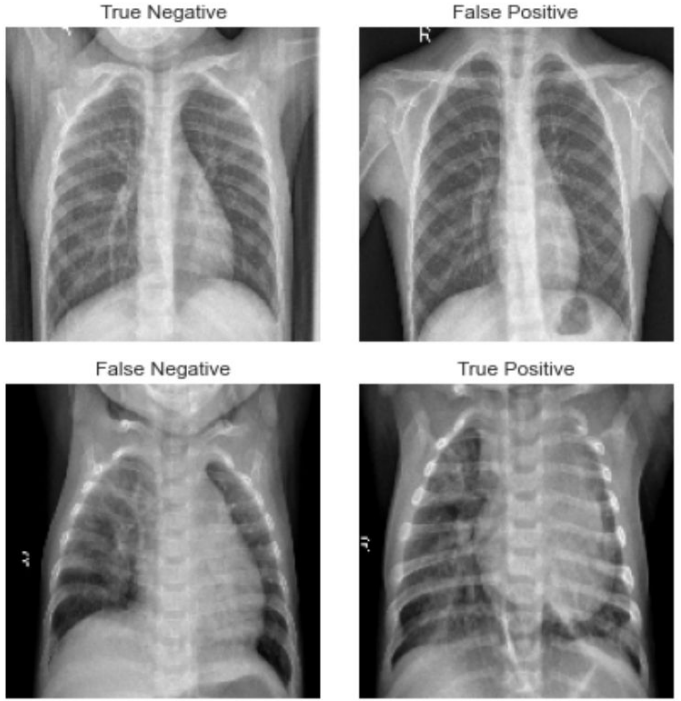
The Model - Convolutional Neural Network with Regularization




conv2d_5

The Model - Evaluation





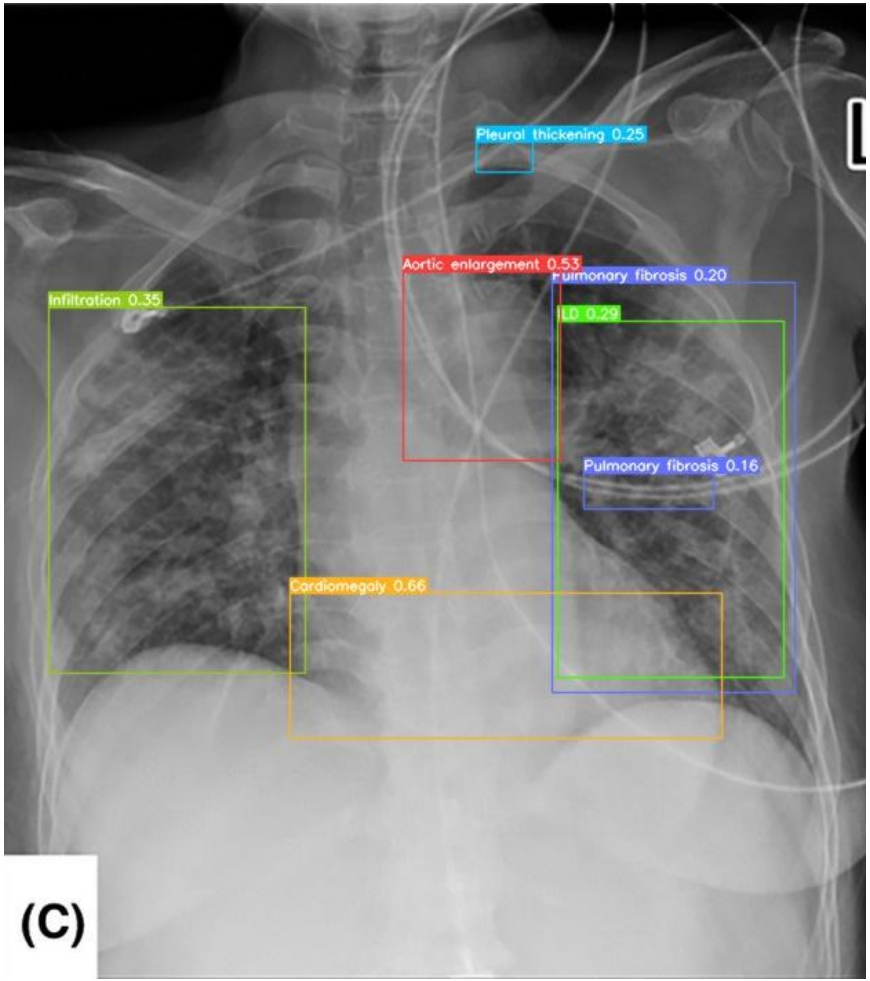
Recommendations

1. Improve access to mobile x-rays
2. Use the model as a screening process
3. Standardize x-ray images

Image from
dicomsolutions.com/mobile-portable-x-rays/

Next Steps

Expand to multi classification
→ Neural Labs Africa's NeuralSight for Chest X-Rays



Questions, Comments, Concerns?

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