Image Classification: Detecting Pediatric Pneumonia

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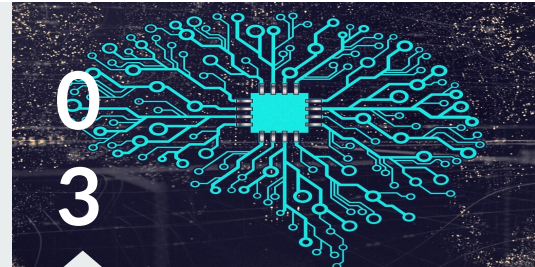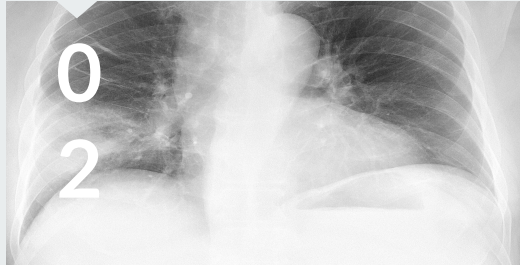**OYZ Consulting**
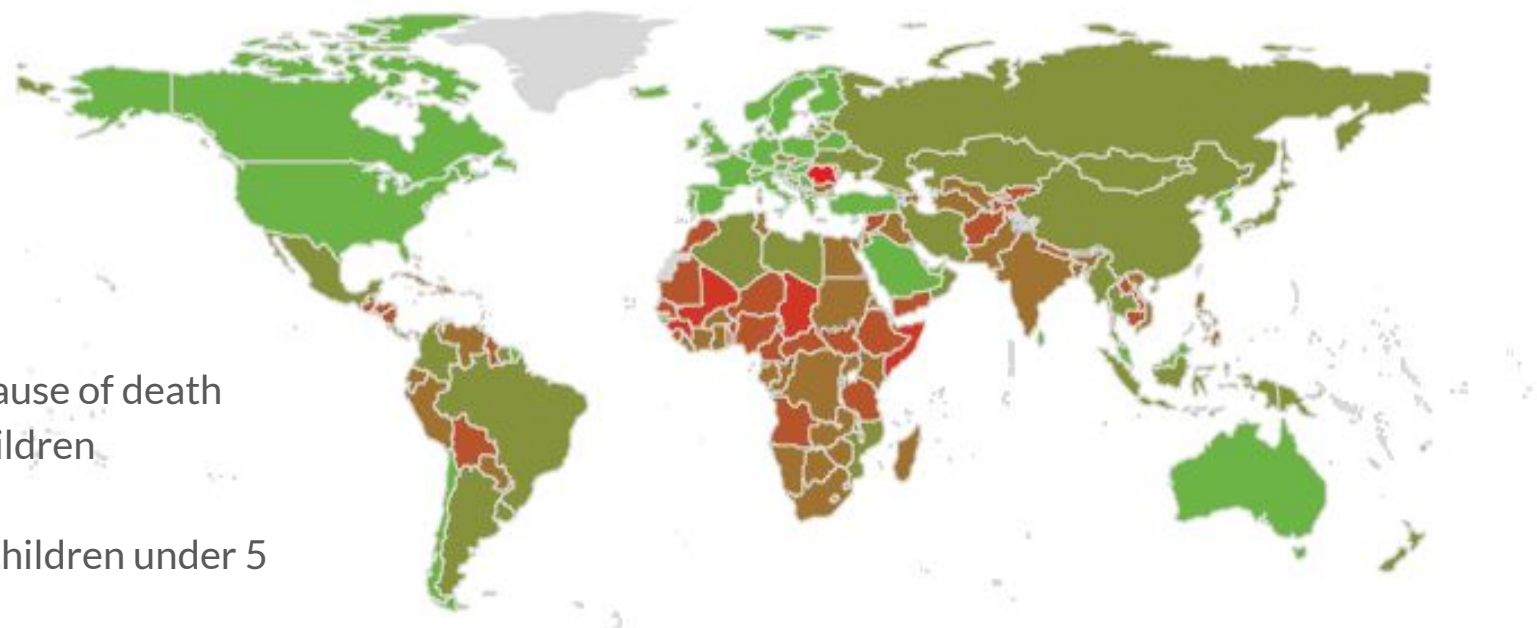
Agenda

0 1

Problem

Modeling

0 2

0 3

Next Steps

Leading cause of death among children

800,000 children under 5

2200 a day

One child every 39 seconds

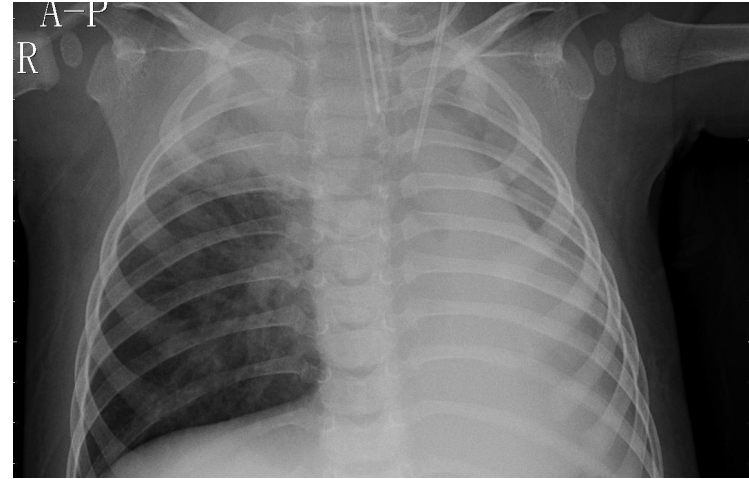| 0 | 5% | 10% | 15% | 20% | 25% | 30% |

Pneumonia

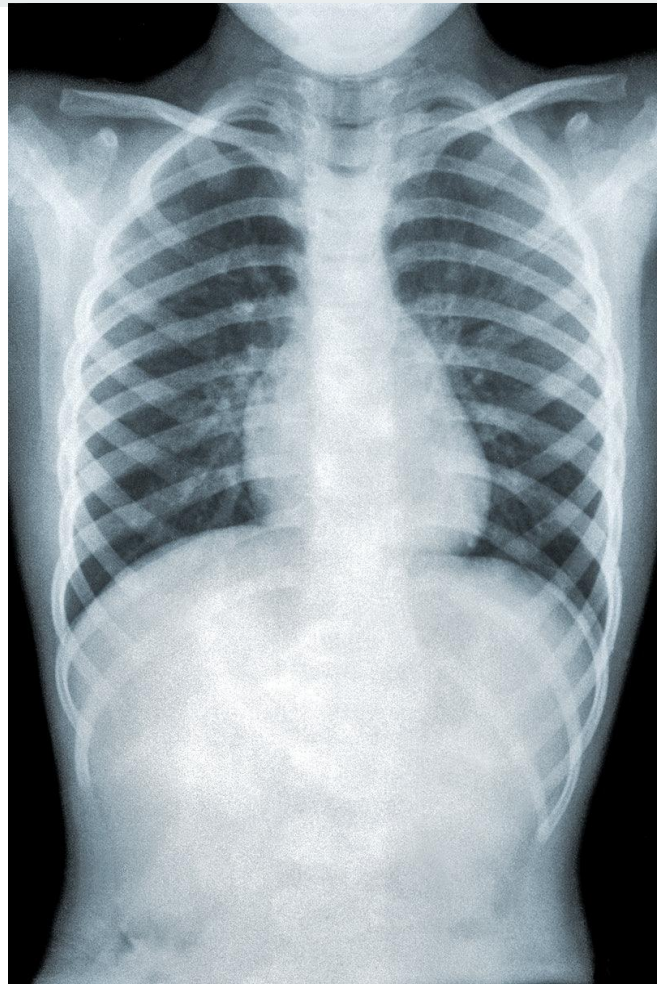- Infection
- Lungs
- Diagnose
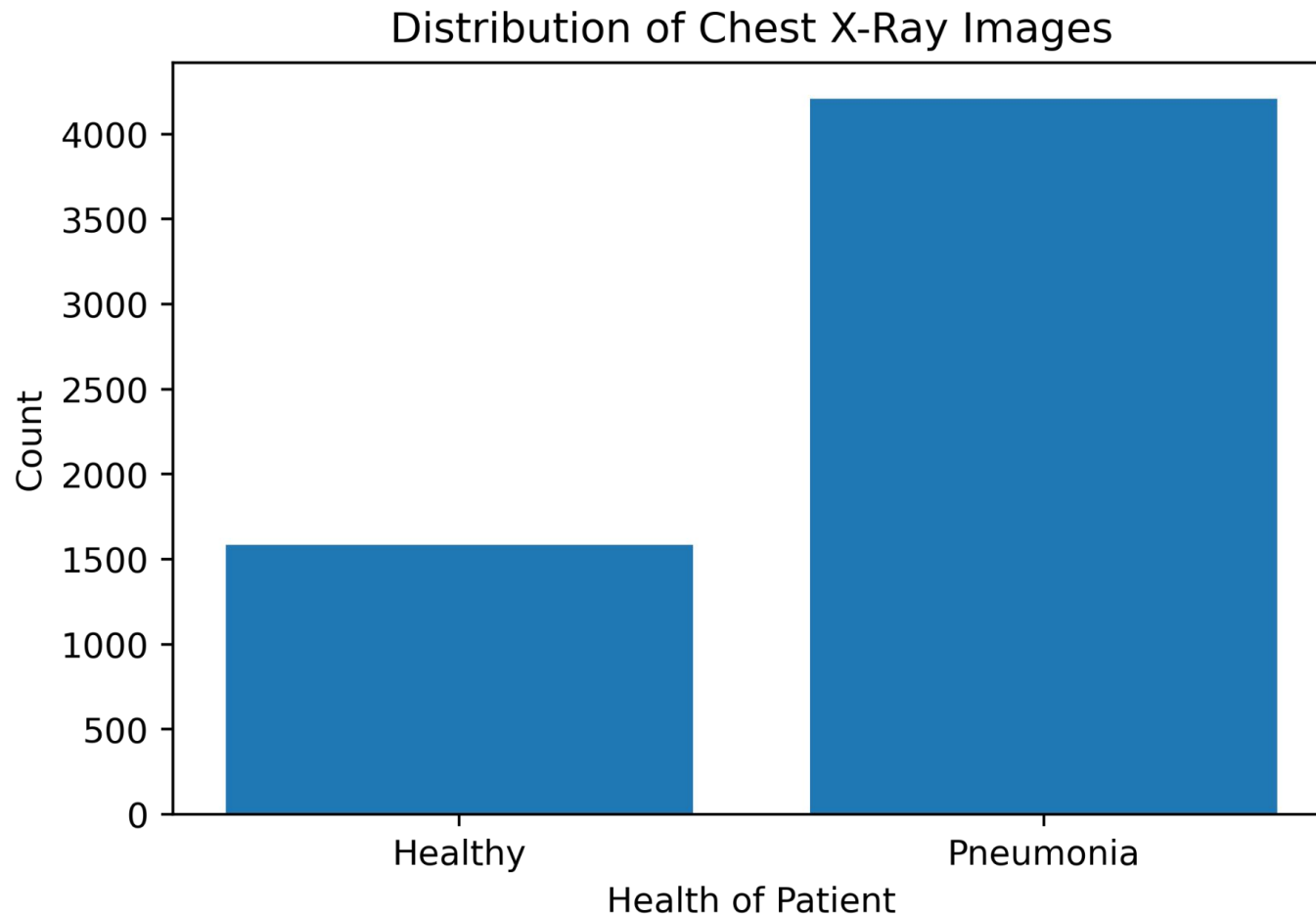- Treatment

Problem to Solve

- Diagnose pediatric pneumonia

- Maximize our ability to identify all pediatric pneumonia cases

Data Overview

- 6,000 chest X-Ray images, ages 1-5

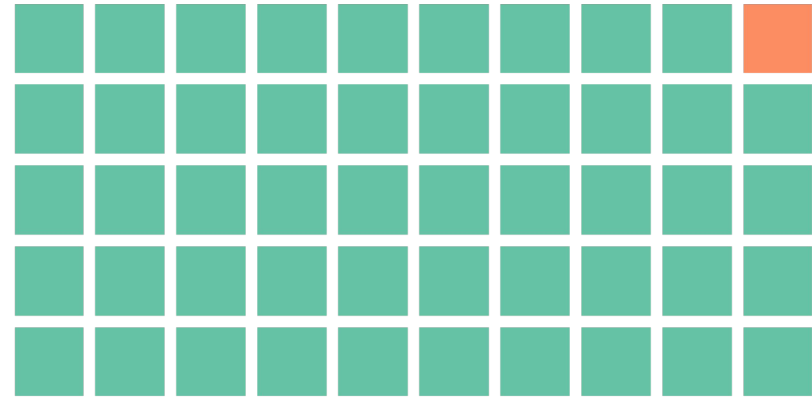- Collected from Guangzhou Women and Children's Medical Center

Distribution of Chest X-Ray Images

Prediction Model

Final Model Results

Visualization of Recall

- Unseen Data Accuracy: 95.2%

- Unseen Data Recall: 98.1%

True Positive   False Negative

Limitations

- Dataset size

- Time to train models

Conclusion

- Minimize false negatives

- Predict pneumonia from x-ray images with 95.2% accuracy and 98.1% recall

Next Steps

- Consult with domain expert
- Deploy model in areas of most need

Thank you!

Any questions?

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