Detecting Viral vs Bacterial Pneumonia from CXR with Deep Learning

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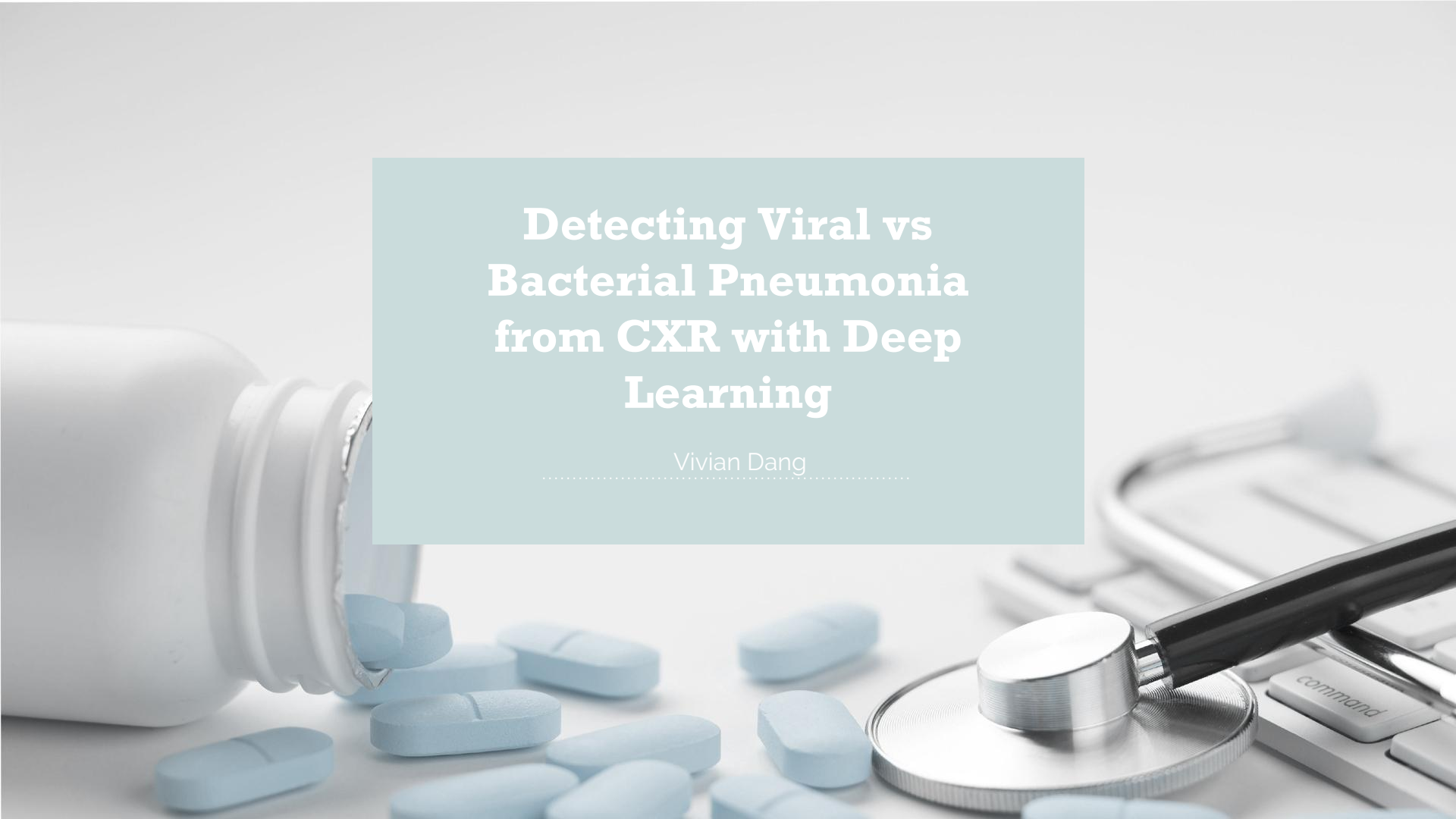


01

ABOUT THE DISEASE

It is an infection that inflames air sacs in the lungs which may fill with fluid or pus

02

PATHOGENS

Virus, bacteria, fungus

03

COSTS

$13B annually
50,000 deaths annually

04

SOLUTION

Fast & accurate diagnosis of pneumonia pathogen with AI

Our Solution:

- Mendeley's Pediatric CXR Dataset
  - 2,538 Bacterial
  - 1,345 Viral
- Model correctly identifies >70% of patients with pneumonia
- Assumptions:
  - Data came from all pediatric age groups
  - No underlying diseases like congestive heart failure or scarring in lungs

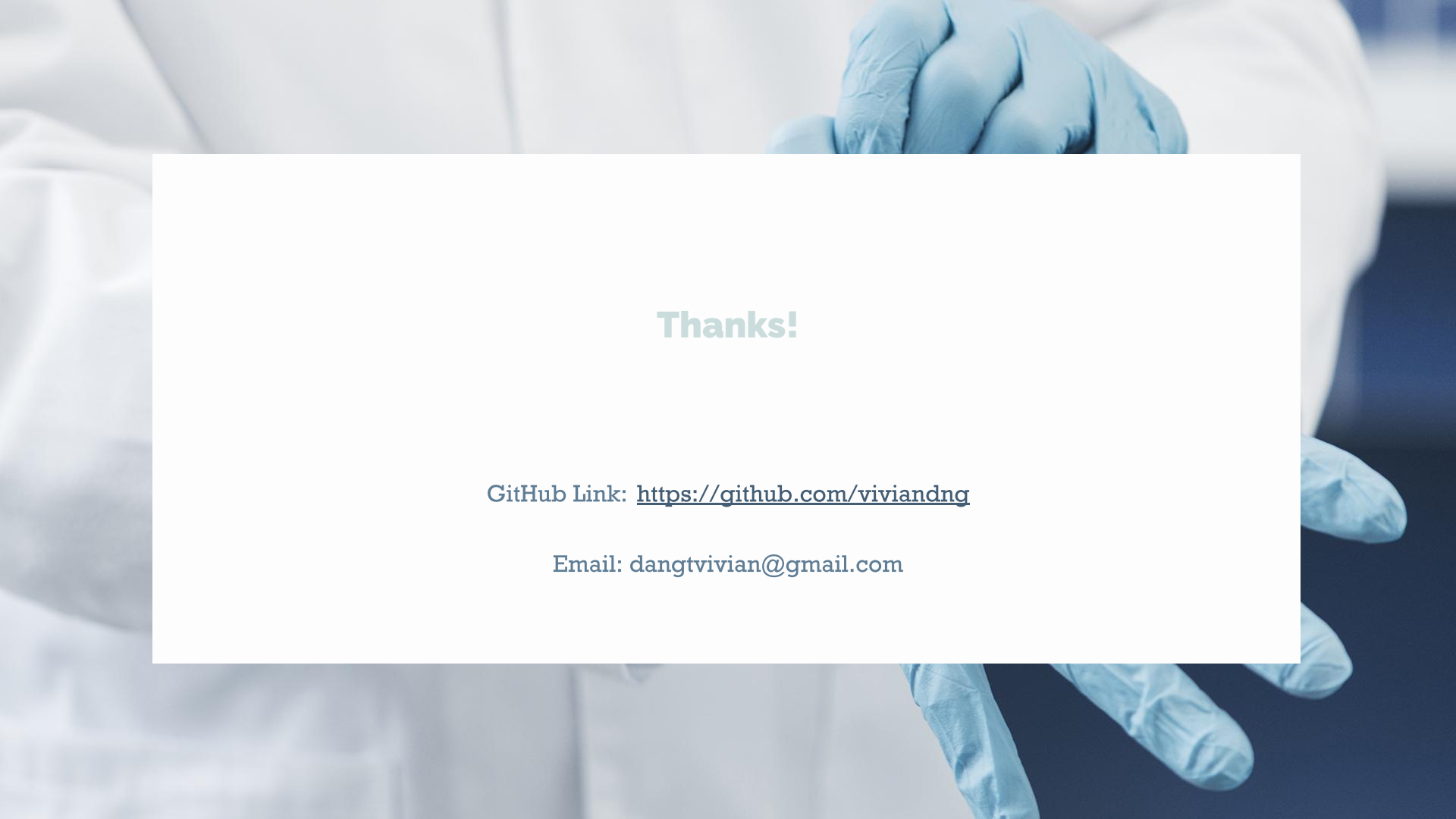
Model Demo

Recommendations:

- Integrate model into medical software to enhance patient treatment outcomes
- Verify model's result with at least one physician to enhance diagnosis accuracy

Next Steps:

- Improve model with data augmentation
- Train model with other transfer learning models (ex: ResNet)
- Create an app and recruit beta testers



Thanks!

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