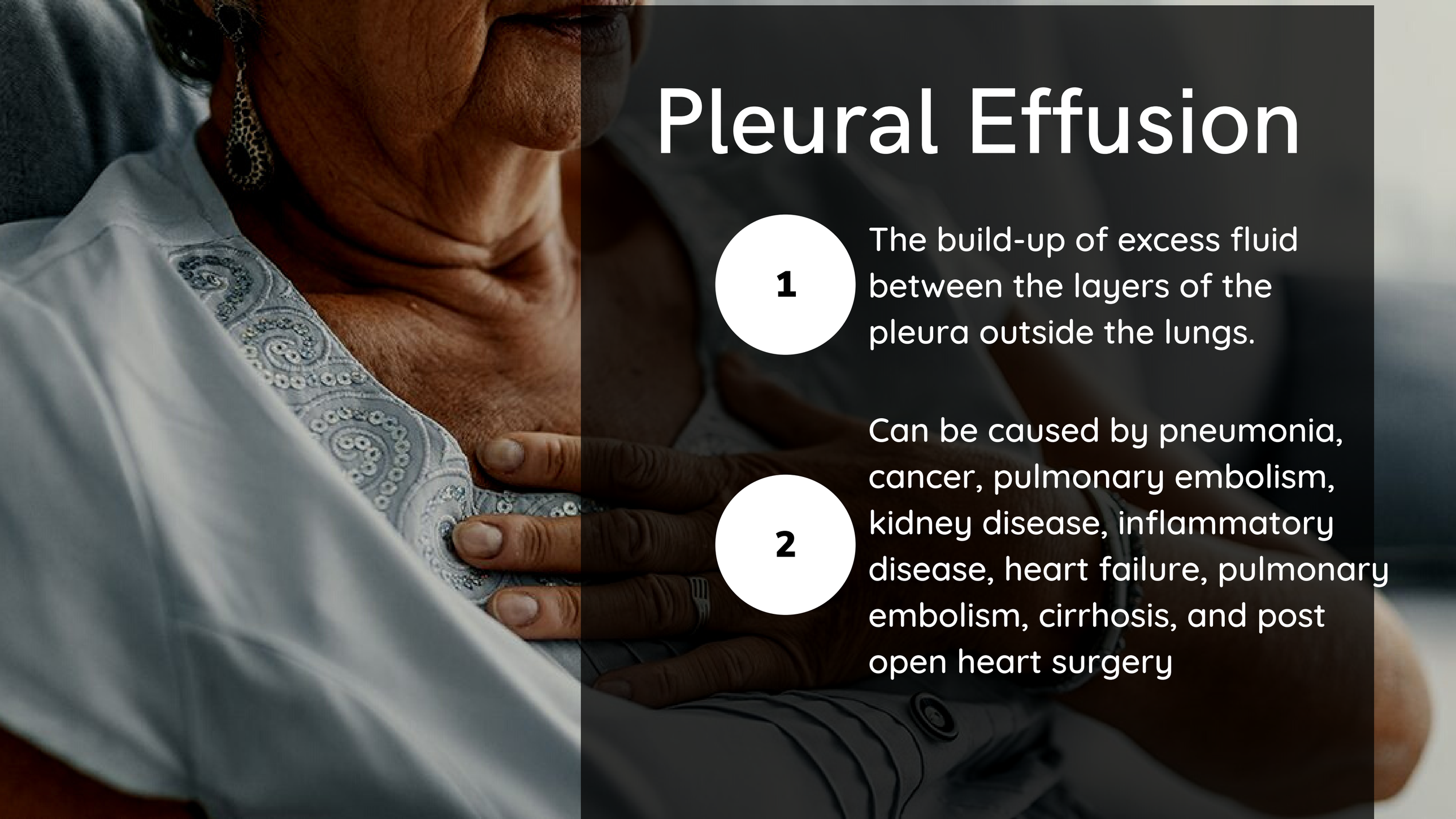
"minoHealth.ai: A Clinical Evaluation Of Deep Learning Systems For the Diagnosis of Pleural Effusion and Cardiomegaly In Ghana, Vietnam and the United States of America"

MinoHealth AI Labs

Democratizing quality healthcare

Darlington Akogo
Founder, CEO

PROBLEM



Pleural Effusion

1. The build-up of excess fluid between the layers of the pleura outside the lungs.

2. Can be caused by pneumonia, cancer, pulmonary embolism, kidney disease, inflammatory disease, heart failure, pulmonary embolism, cirrhosis, and post open heart surgery

Cardiomegaly

1. An enlarged heart identified via an imaging test
2. It has become increasingly prevalent and carries a high mortality.
3. Associated with congenital heart defect, damage from a heart attack, hypertension (high blood pressure), and anemia.

PROBLEM

There is a limited number of clinicians in Africa and globally.

Doctor to patient ratio

1:11K
Ghana

1:60K
Malawi

Radiologist to patient ratio

1:100K
South Africa

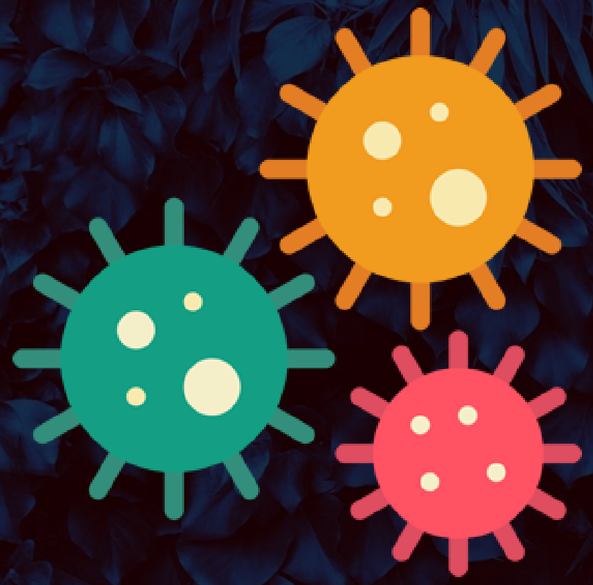
1:400K
Ghana

Ghana has less than 100 radiologists, Liberia has only 2 radiologists.

Solution

We are automating medical diagnosis, prognosis, and forecasts.

We are an internationally recognized startup pioneering AI in health. We are helping health facilities provide quality healthcare and reducing the workload on the existing clinicians.



AI for Infectious Diseases

AI for Radiology

AI for Biomedical Research

Clinical Evaluation

The first AI for Radiology clinical study in Africa.

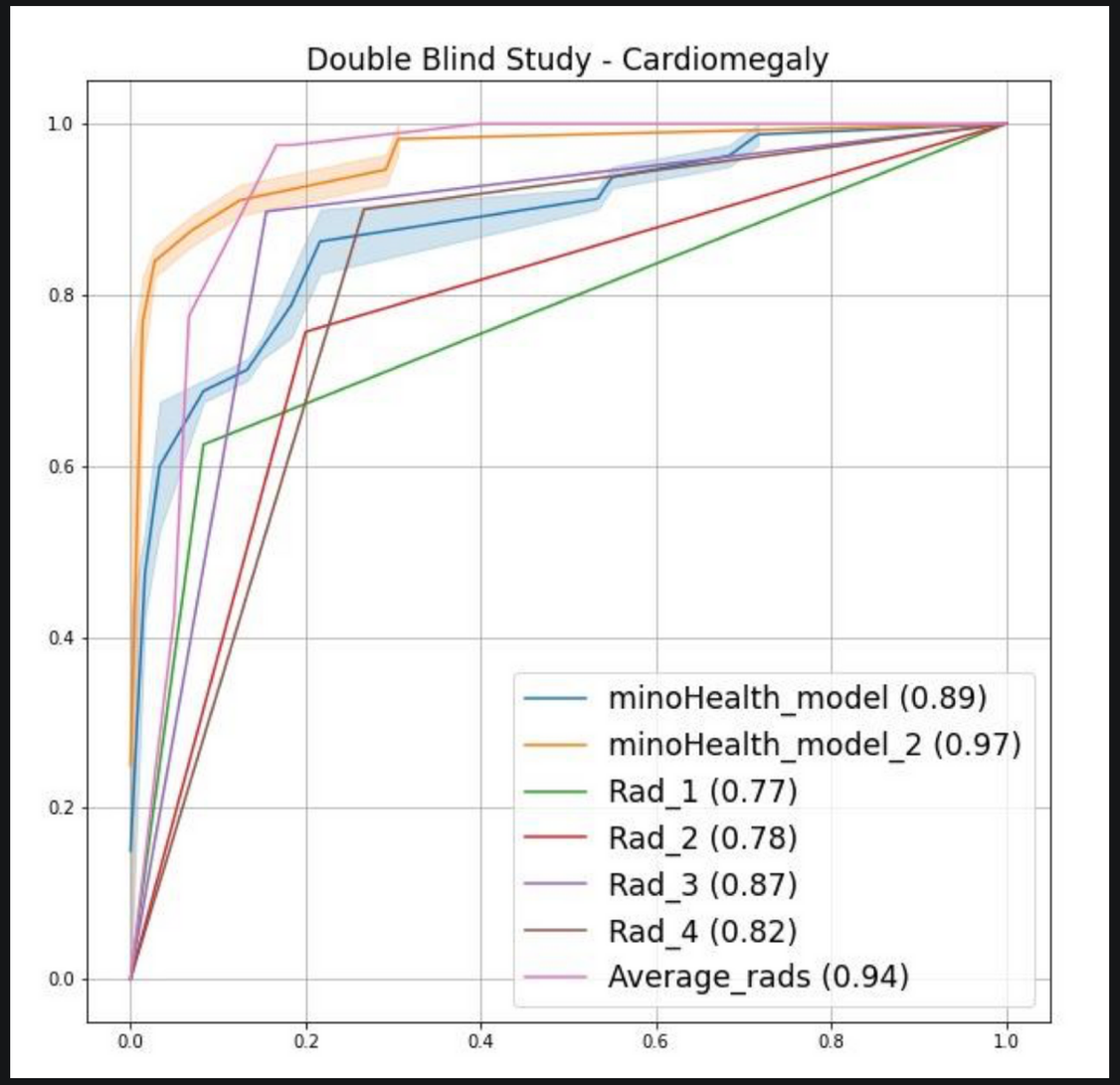
Evaluation Data
The evaluation dataset used in this study contained 100 images selected from Ghana, Vietnam and the USA.

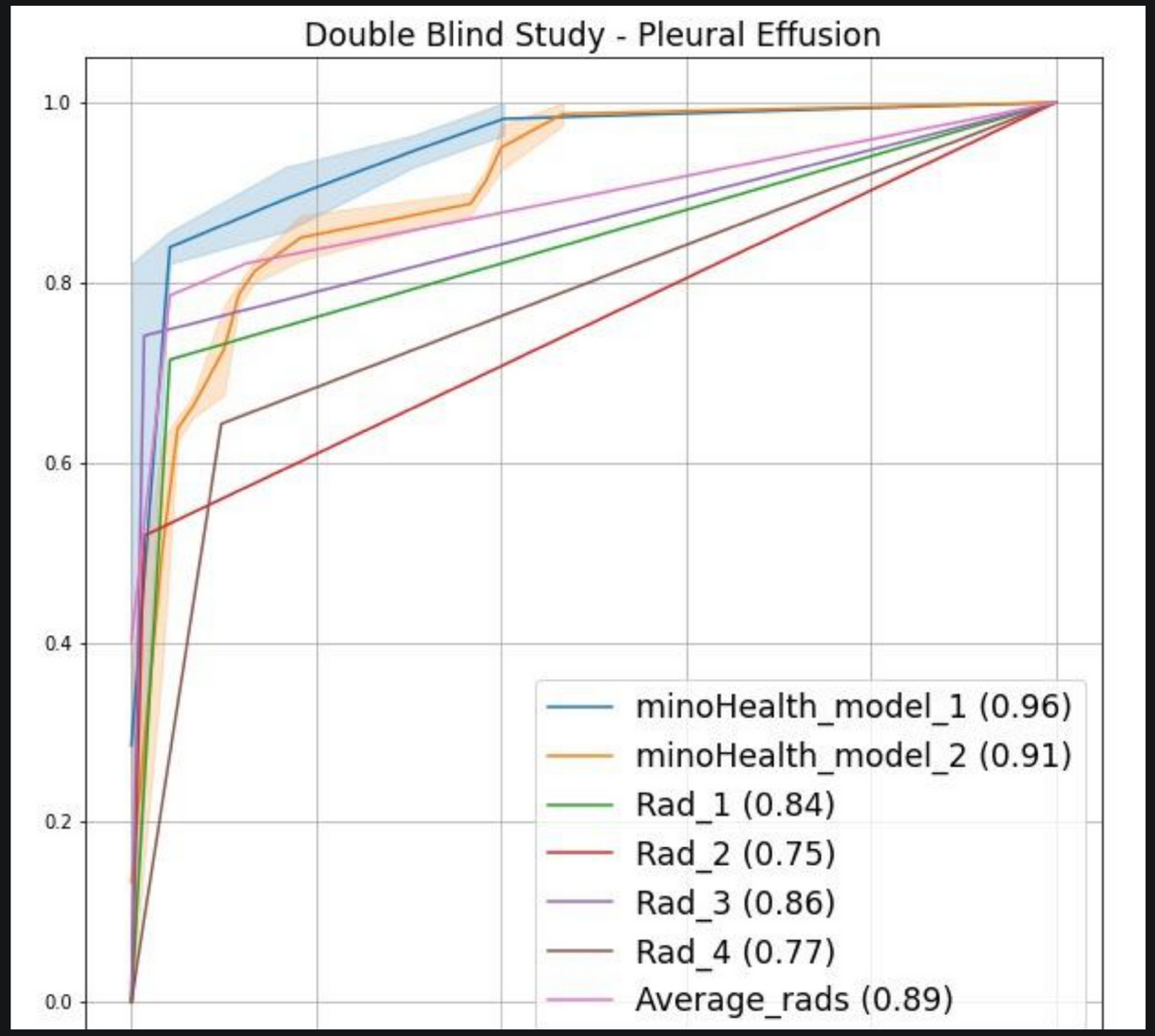
AI system was further tested on a larger Ghanaian dataset containing 561 samples.

Evaluation Against Gold Standard
2 minoHealth.ai systems
4 radiologists: with 5 - 20 years experience, to diagnose independently.

Clinical Evaluation: Results

NEXT





Clinical Evaluation: Results

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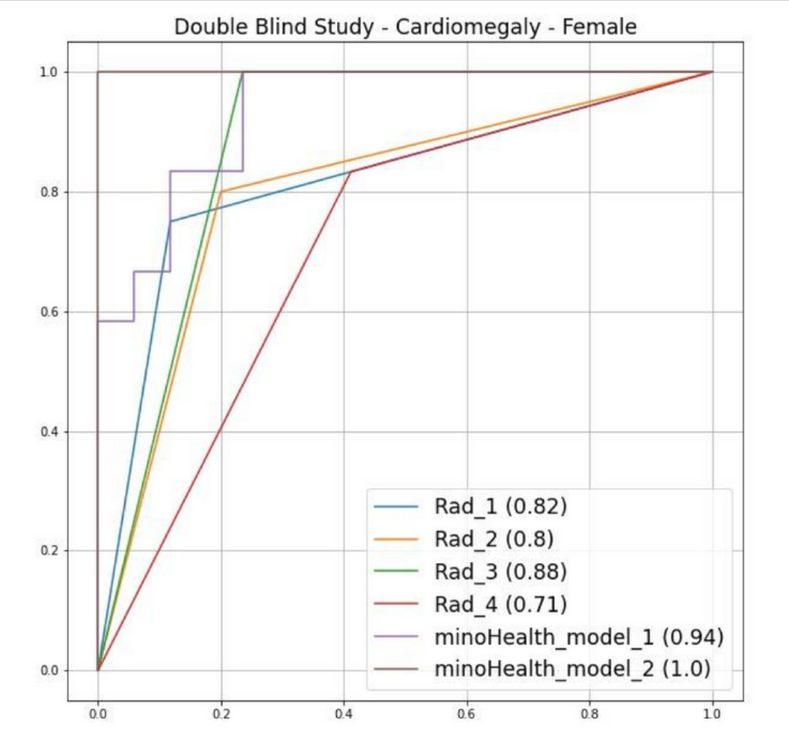
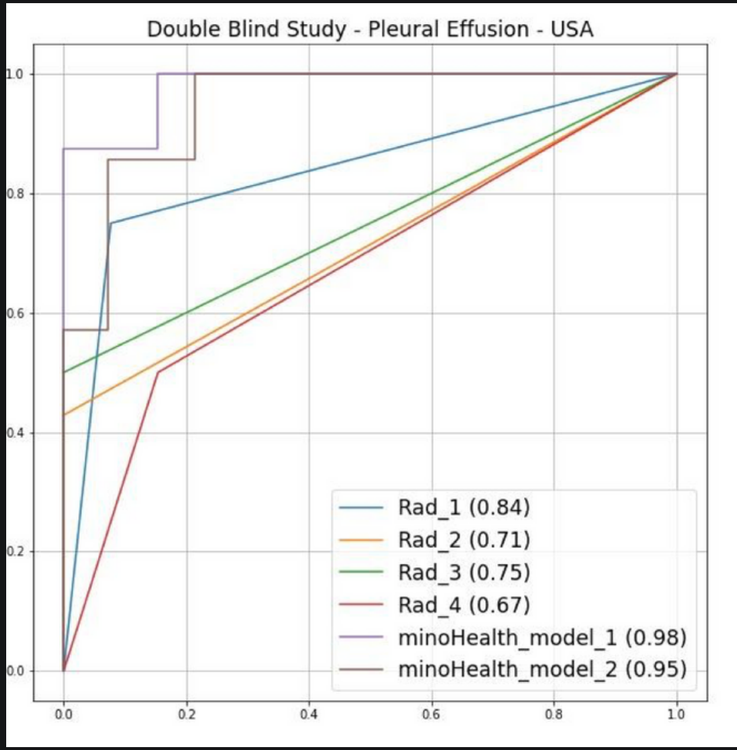
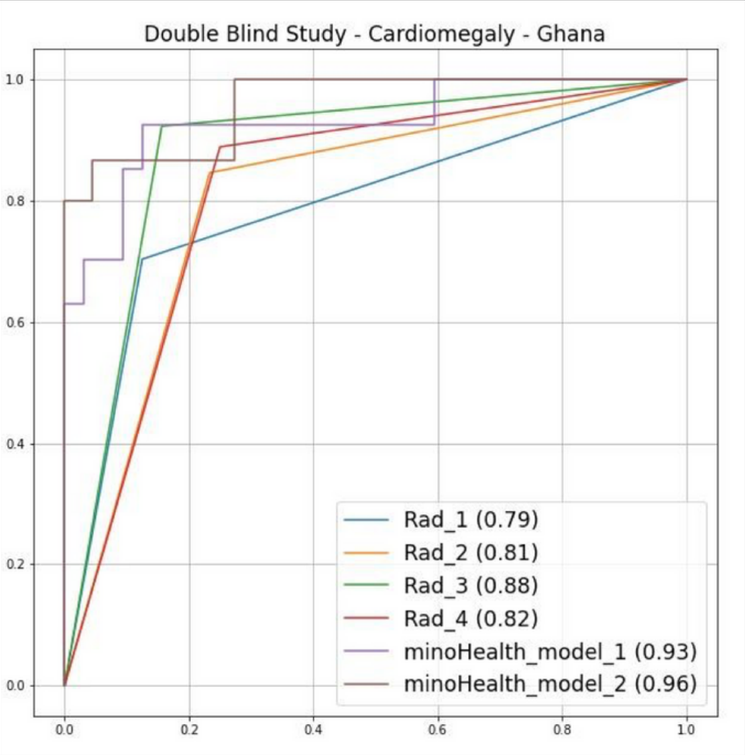
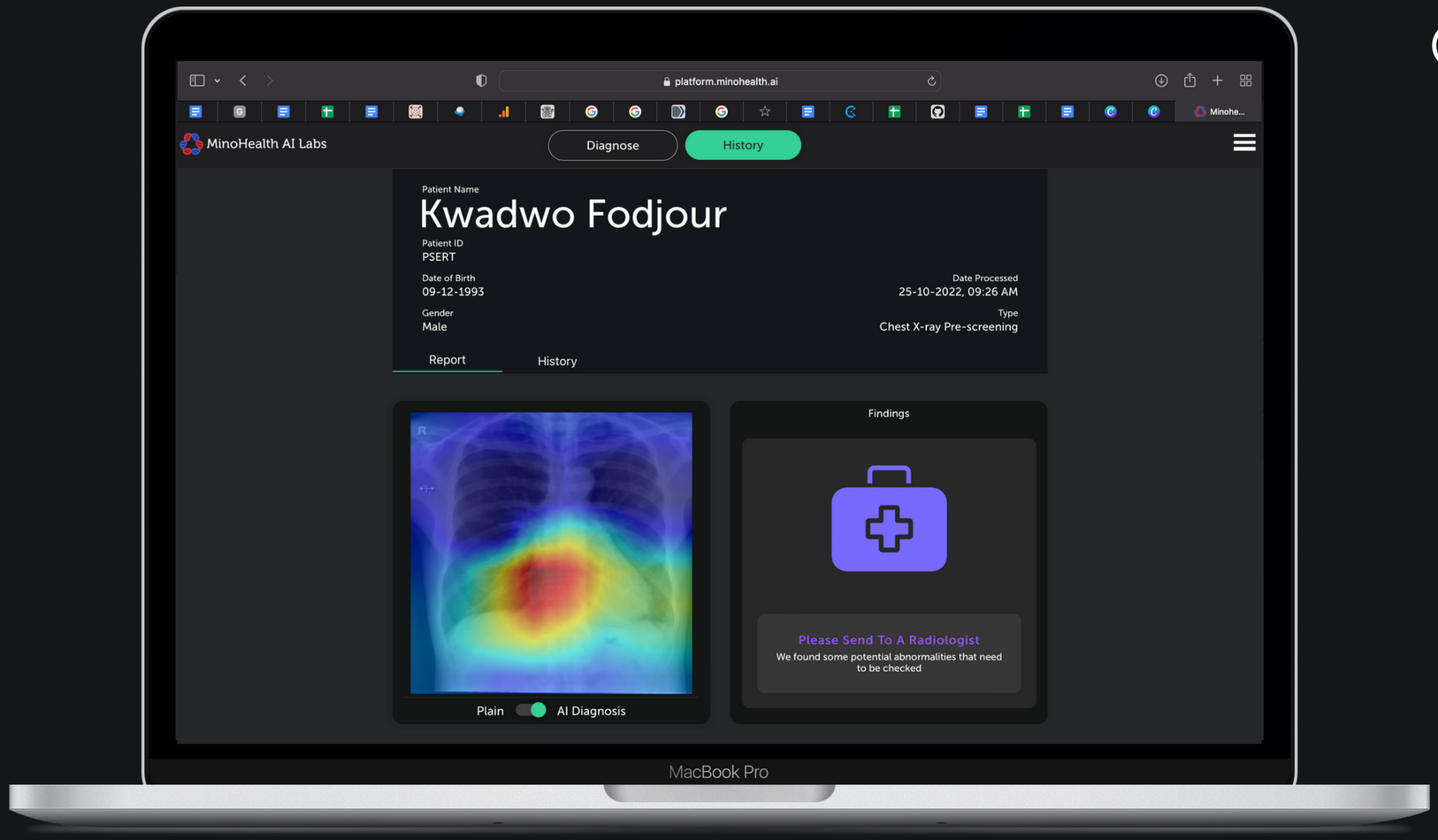






Product



Automated AI Chest Pre-Screening (chest x-ray) for:

- Pneumonia
- Pleural Effusion
- Cardiomegaly
- Enlarged Cardiomediastinum
- Lung Opacity
- Lung Lesion
- Edema
- Consolidation
- Atelectasis
- Pneumothorax
- Fracture

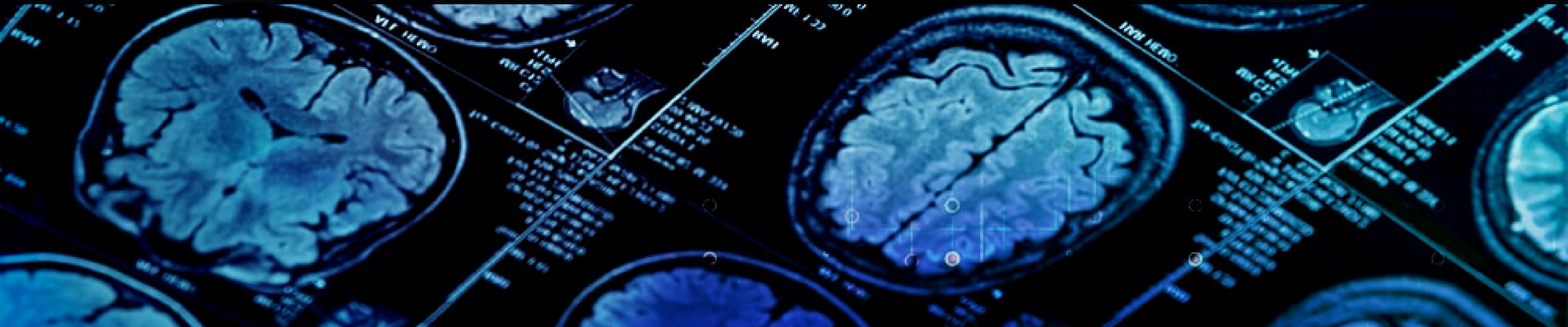
Visit: platform.minohealth.ai

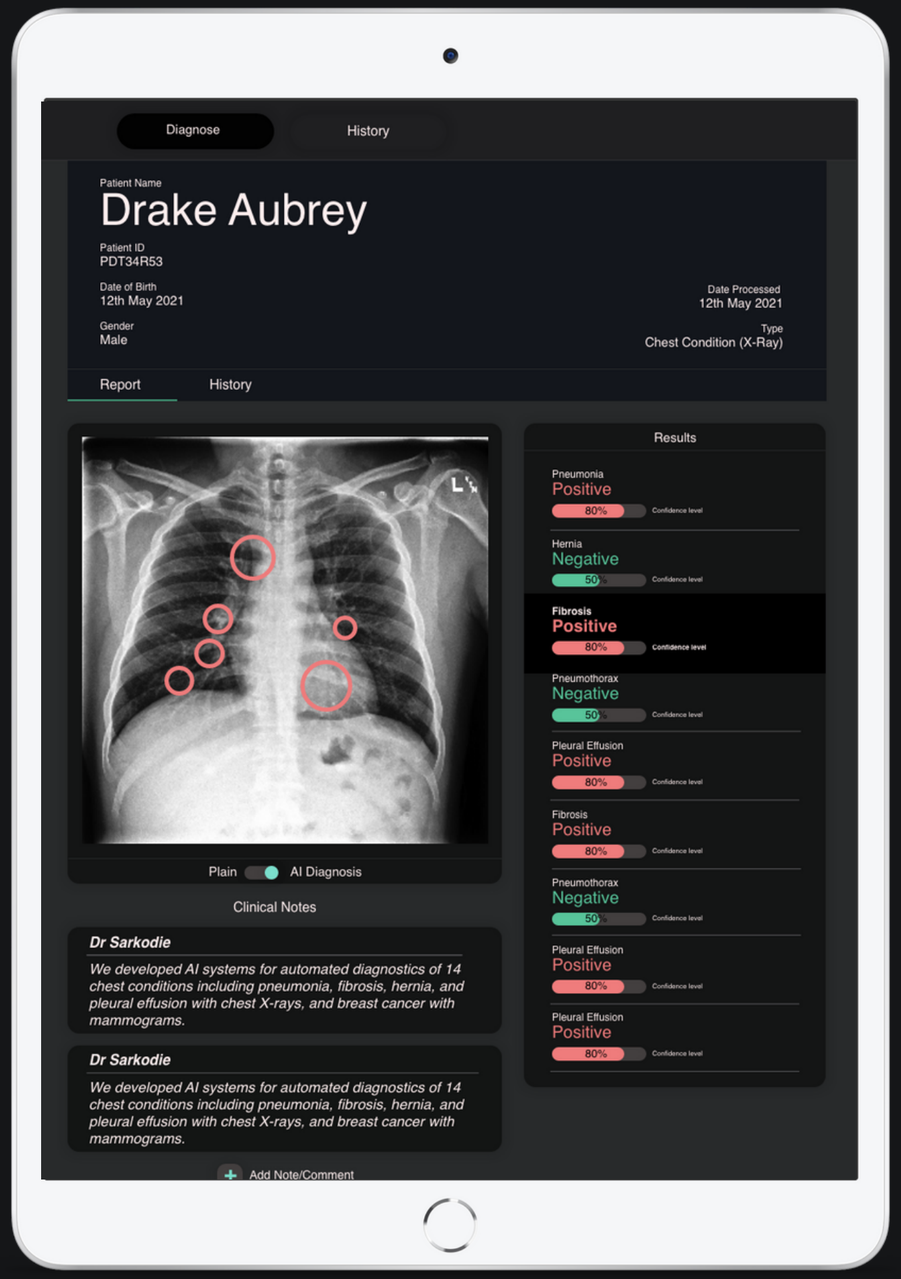
Product

minoHealth AI

minoHealth AI supports the automated diagnostics of 9 chest conditions with chest X-rays.

The system is given a chest X-ray, the AI system analyses it and then generates diagnostics results.

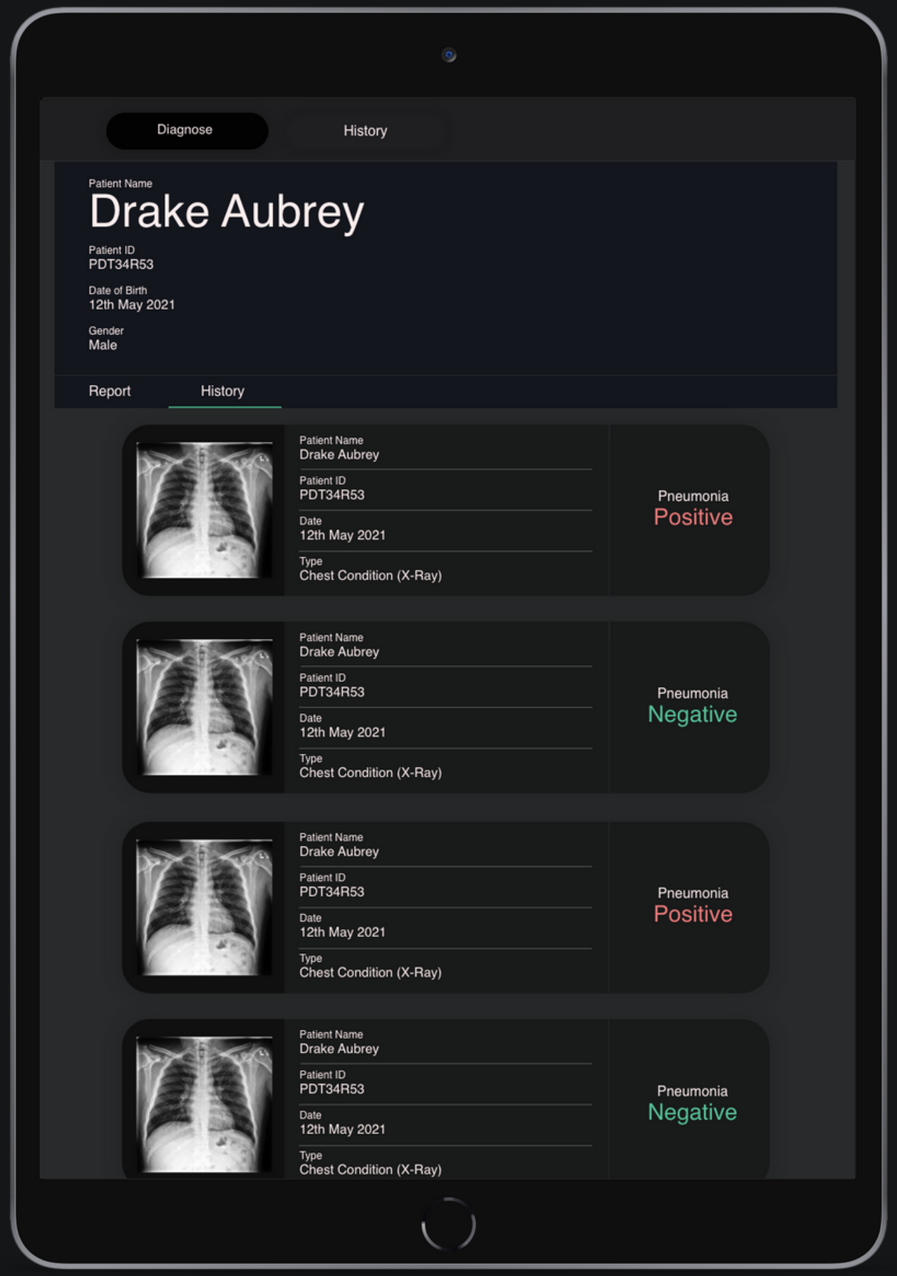




How It Works

1. Fill AI form with patient's medical image and information

2. minoHealth.ai analyses the medical image and then provides AI diagnostics results



Benefits

1. Fast: Diagnostic Radiology in under 1 minute
2. Accurate: high performance of AI systems
3. Affordable: AI diagnostics at a price accessible to all

Impact

1. Democratised early disease detection for all citizens
2. Allowing for early intervention
3. Leading to higher survival rates & life expectancy, and better quality of life

OUR COLLABORATORS

NEXT

World Health Organization

ITU

Imperial College London

Lacuna Fund
Our voice on data

AI for Health
An ITU Focus Group
In collaboration with WHO

UNIVERSITY OF OXFORD

UK Research and Innovation

EURACARE
MULTI-SPECIALIST HOSPITAL

NIHR | National Institute for Health Research

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We are looking forward to working with you!

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