TEAM HAUDE

Using CNNs for the lung disease from Chest X-ray Images

Exploring the Use of Computer Vision Techniques for Accurate Lung Infection Diagnosis

Meet Our Team

We all come with the shared vision to make a difference in the world with the power of AI in the Health field.
As we talked and shared ideas, we realized that we had an opportunity to make a real impact.

Our team is as follows:

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Problem Statement

- Human error can lead to inaccurate diagnosis
- Medical images are complex, making them time-consuming for radiologists.
- Human bias may lead to overtreatment which can have a bad impact on patients.
- Radiologists may interpret medical images differently, leading to inconsistent diagnoses.
- In some areas, there may be a shortage of radiologists or specialists, leading to delays in diagnosis and treatment.

Dataset

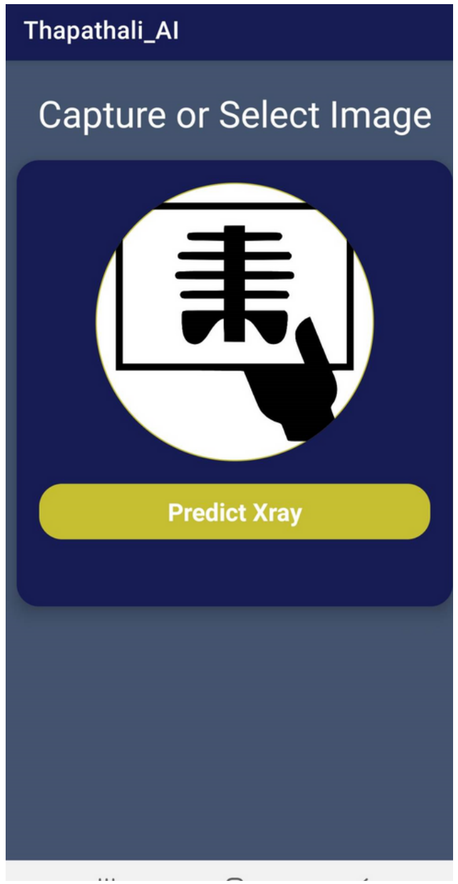
- There are 5 classes for which needs to be predicted which is extracted from different Kaggle projects, in each project there are image containing different size.
- Size of each image is made into 300 X 200
- A new kaggle dataset containing of all of the classes is generated.

Proposed Solution

- AI can assist doctors in identifying patterns and features
- AI can help speed up the detection & reducing the workload
- AI can provide work inareas where specialists are not available.

Workflow

Image Capturing



Users can capture images, such as chest X-rays, using their mobile device's camera.

Image Preprocessing

- Cropping
- Resizing
- Augmenting the data
- Normalizing the data

Image Transmission

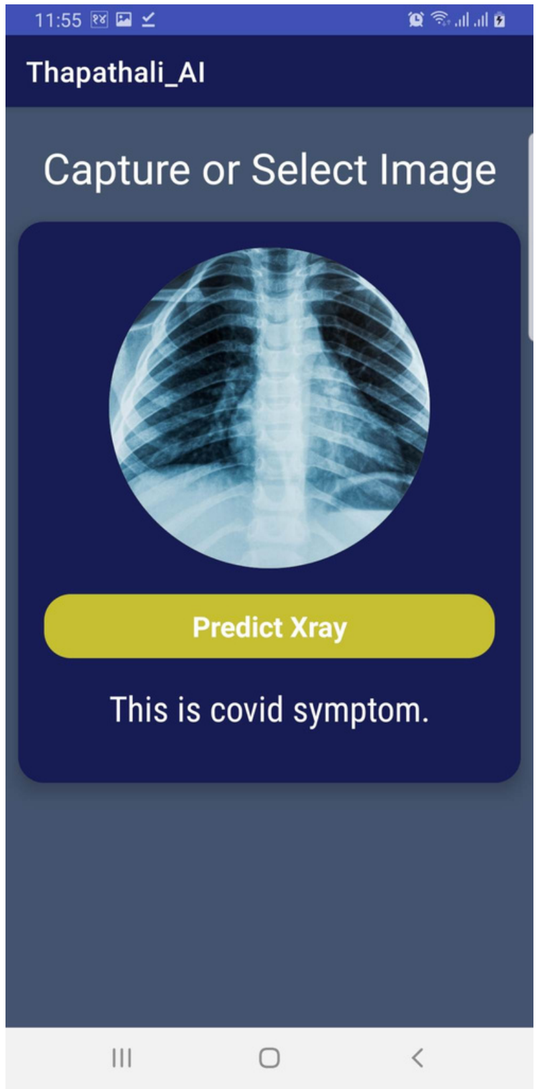
The captured image would be transmitted to a server through an API

AI model

Pre-processed image would be passed
through the trained AI model, which would analyze the imag
make a prediction

Result Display

The result would be displayed to the user through the app, providing them with an indication of whether the image is a disease or not



Future Prospects

- 3D Imaging: CT scan and MRI scans can be classified.
- More Accurate prediction and more data and more
- Real-time monitoring: Tracking of progress in app in realtime
- Virtual reality: User can interact using Virtual reality in more significant way
- Automated report generation: Reports can be automatically generated

Conclusion

Future prospects: more data, advanced architectures

Extension to other healthcare areas

Explainable AI, robust data pipeline

Potential to revolutionize healthcare

Thank You