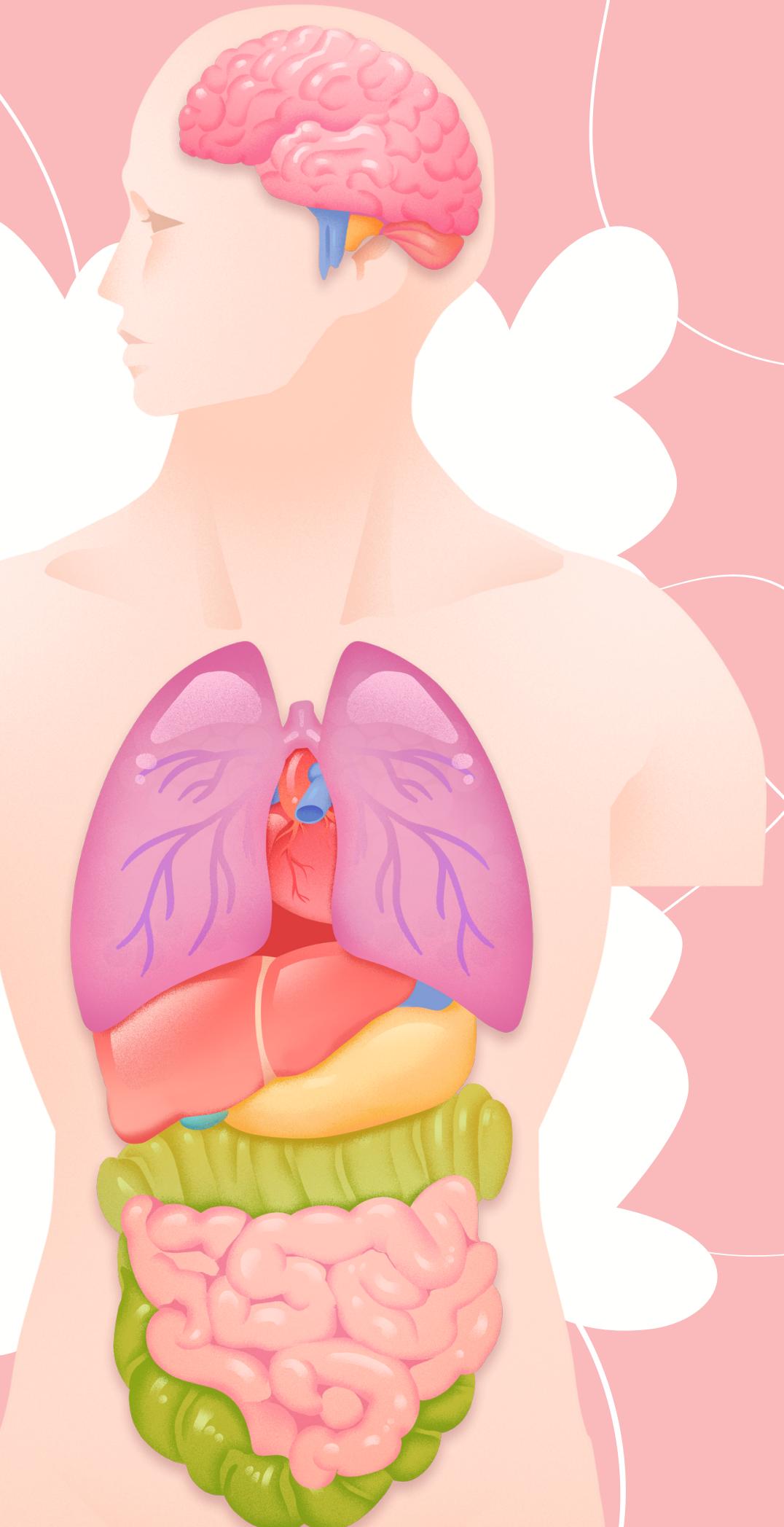


LUNGS CT SCAN

Masters Thesis by Tathagat Saha (Mat: 902046)



Agenda

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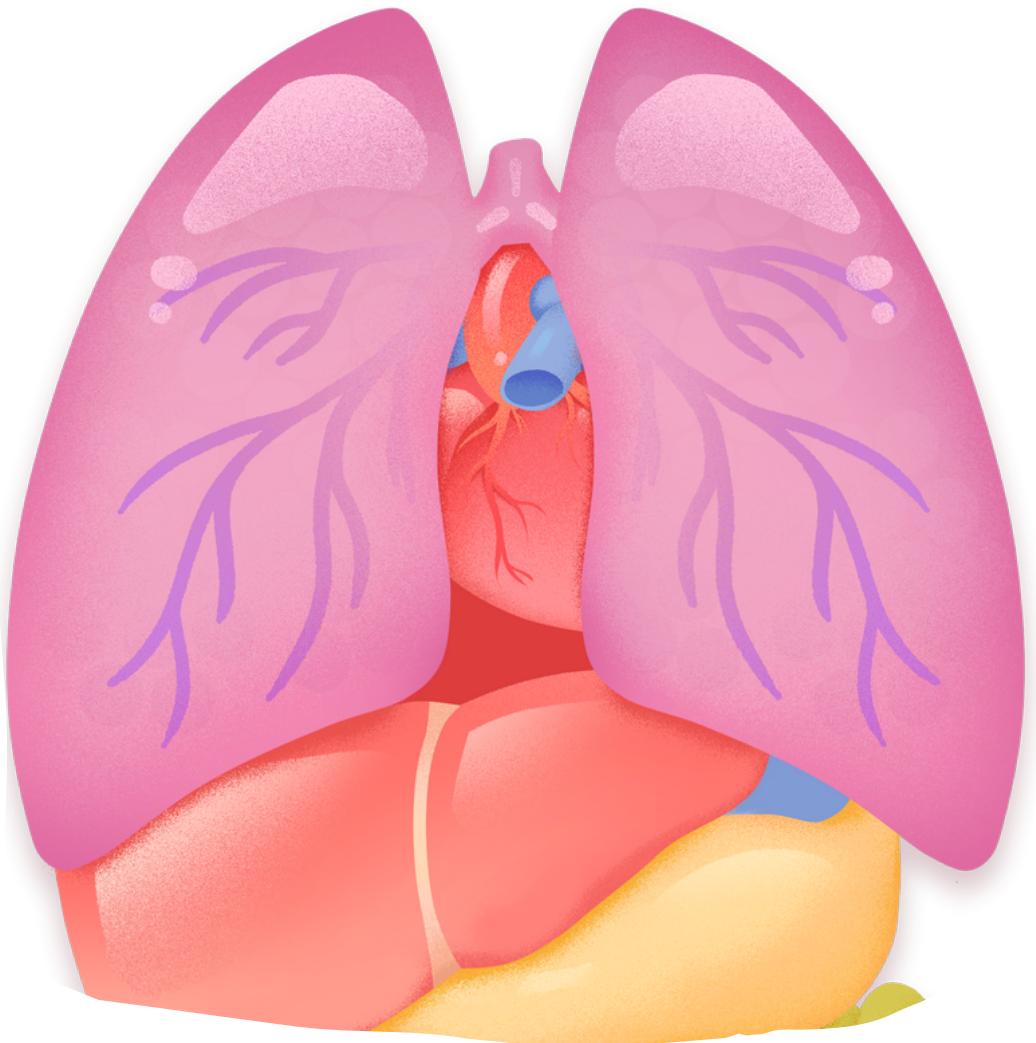
Important Data

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Introduction



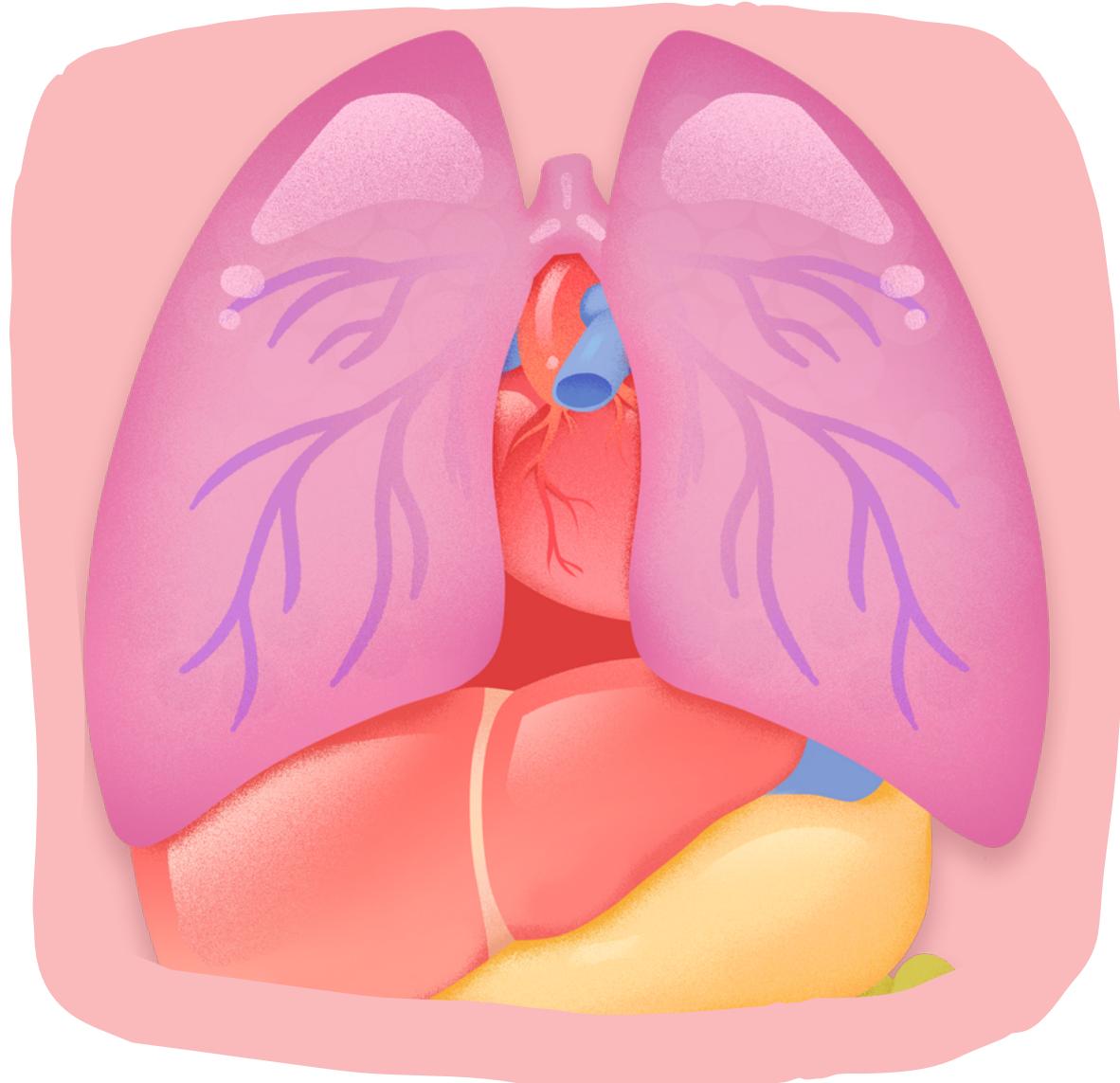
General concepts

A CT scan, or computed tomography scan, is a medical imaging procedure that uses X-rays to create detailed cross-sectional images of the body. It provides more detailed information than conventional X-rays and is commonly used in various medical fields for diagnostic and treatment planning purposes

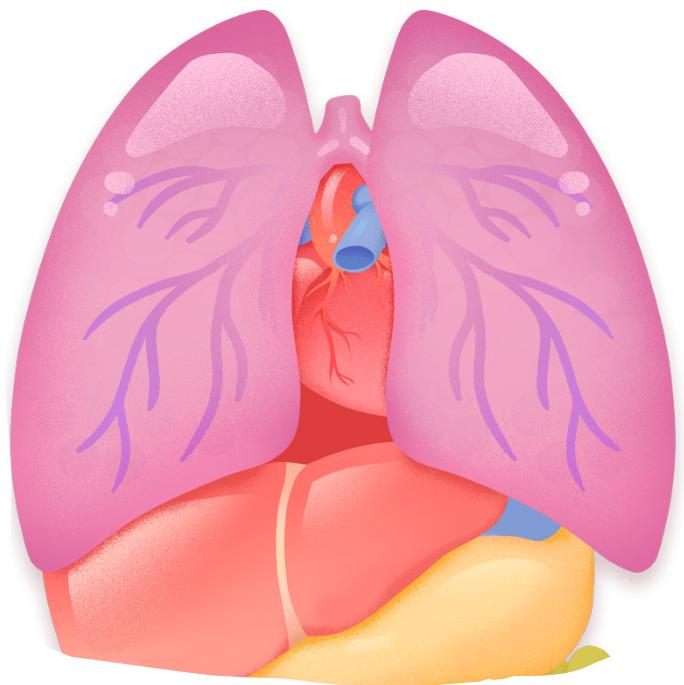


Output

It provides us a 3D view of the affected area in question, by taking multiples 2D slices of the entire area. A combination of all the 2D slices, gives us a holistic 3D view



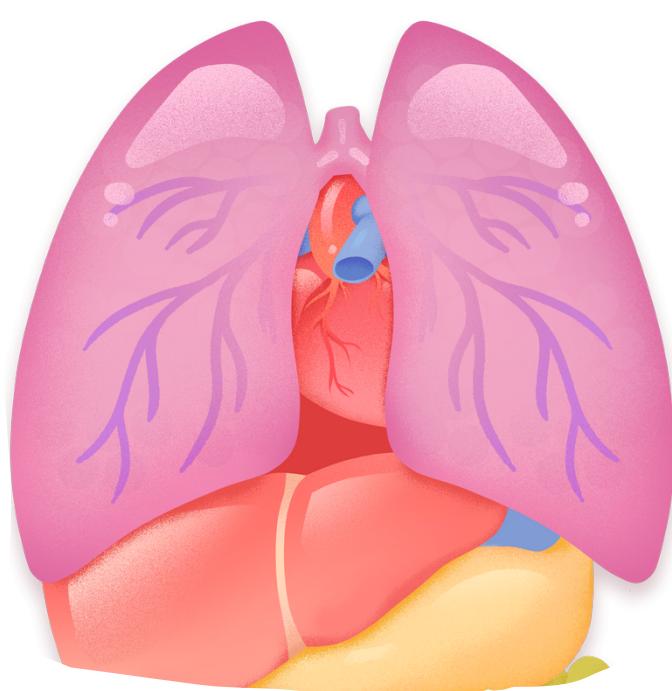
Problem Statement



Prediction of recurrence of lungs cancer before the actual surgery of the lungs tumour takes place.

Thus, helping surgeons to take precautionary measures before the actual surgery.

Dataset



01

The data we are using has been obtained from Cancer Imaging Archive. The dataset contains lungs CT scans of 211 patients

02

There also exists a csv file which contains the labels. The dataset has all patients with lungs cancer, but the labels indicate whether they had a recurrence or not

LITERATURE REFERRED



Uniformizing Techniques to Process CT scans with 3D CNNs for Tuberculosis Prediction by Hasib Zunair, Aimon Rahman, Nabeel Mohammed, Joseph Paul Cohen.

https://github.com/hepxpansion/Tatz_Thesis/blob/main/Research%20Papers/2007.13224.pdf



Automated detection and segmentation of non-small cell lung cancer computed tomography images

https://github.com/hepxpansion/Tatz_Thesis/blob/main/Research%20Papers/s41467-022-30841-3.pdf