Project Title: 

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Description:

For our project we will be implementing an AI model for chest x-rays to identify 6 findings (Atelectasis, Cardiomegaly, Consolidation, Edema, No Finding, and Pleural Effusion). An AI model for chest x-rays is beneficial since it can be used to save doctors time and save hospitals money by speeding up the analysis of x-rays and help give patients a faster diagnosis. The main purpose of using AI on chest x-rays would be to identify negative results or identify what diseases are present and the location of these diseases to doctors with the use of visual mapping (color gradients) and specific tags for each disease and location. The main stakeholders for this project will be doctors (radiologists) who will be examining the x-rays, medical imaging technologists (radiographers) who will be taking the x-rays, and the hospital administrative staff. In terms of functionality, our project will consist of two main parts, a frontend website, and a backend for image processing through AI. Specifically, the frontend website will allow for uploads of DICOM images as it is standard in hospitals and it will return the image with tags for what disease(s) it found, as well as the image itself with highlighted locations of where it has found any disease(s). For the backend we will be training our model in Python using PyTorch and TorchXrayVision. In terms of datasets for training we will be using the MIMIC dataset.