Chest X-ray AI

**Objective**

To assist radiologists in detecting abnormalities in chest X-ray images using AI, improving diagnostic accuracy, reducing reporting time, and enhancing workflow efficiency.

**Target Users**

* Radiologists and medical professionals who interpret chest X-ray scans.

**Input and Output**

* Input: DICOM format chest X-ray image.
* Output:
  + Annotated DICOM image with bounding boxes highlighting abnormalities.
  + AI Prediction Report with classification results and confidence scores.

**AI Model Functionality**

* Deep learning models are trained to detect common chest X-ray abnormalities.
* Capable of identifying multiple pathologies.
* Designed to assist radiologist judgment.

**Workflow Integration**

* Fully integrated with Medsynapse PACS.
* Automated pipeline:
  1. X-ray is acquired and stored in PACS.
  2. AI model analyzes the image.
  3. Results (annotated image + report) are sent back to PACS for radiologist review.

**System Architecture Overview**

LAB ➝ PACS ➝ AI Analysis ➝ PACS

**Benefits and Clinical Impact**

* Faster diagnosis and reporting.
* Improved operational efficiency in radiology departments.
* Reduced risk of missed positive cases.
* Optimized workflow, especially helpful during high patient volumes.

**Summary**

Chest X-ray AI is a reliable, PACS-integrated solution that supports radiologists in quickly and accurately identifying abnormalities, improving overall diagnostic outcomes and efficiency.