**AI-Assisted Radiology for Tuberculosis Diagnosis and Community Education**

artificial intelligence technology is used to support radiologists in analyzing X-ray images to detect signs of tuberculosis. Additionally, the project includes an educational component aimed at the community, providing information and raising awareness about tuberculosis and the importance of seeking medical advice if someone suspects they have the disease.

**AI Tool for Radiologists:**

**Functionality:**

* **Image Analysis:**
  + Utilize deep learning algorithms trained on large datasets of chest X-rays with confirmed TB and other pathologies.
  + Analyze X-rays for features suggestive of TB, such as infiltrates, cavities, and calcifications.
  + Highlight these potential abnormalities on the X-ray with color overlays or markers.
  + Generate a "confidence score" indicating the algorithm's certainty about the findings.

**Educational Tool:**

**Content:**

* **TB Basics:** Information on transmission, symptoms, diagnosis, and treatment.
* **Importance of Early Diagnosis:** Emphasize the benefits of seeking medical attention promptly.

**Input:**

* **Chest X-ray image:** This could be in various formats like DICOM or JPEG, depending on your system's compatibility.

**Output:**

* **Heatmap/segmentation:** Highlight potential regions of interest in the X-ray that suggest abnormalities, likely focusing on lung areas.
* **Probability scores:** Indicate the model's confidence level in detecting TB or specific features related to TB.
* **Textual report:** Summarize the model's findings, highlighting potential abnormalities and suggesting further investigations based on its analysis..