Medical Image Classification for Disease Detection

Industry: Healthcare

Description: Classify medical images (e.g., X-rays) to detect diseases like pneumonia using deep learning.

Instructions:

1. Load and preprocess images (resize, normalize pixel values).

2. Split data into training, validation, and test sets.

3. Build a Convolutional Neural Network (CNN) using a framework like TensorFlow or PyTorch.

4. Train the model and use data augmentation to improve generalization.

5. Evaluate with accuracy, precision, and recall; visualize misclassifications.

Dataset: Chest X-Ray Images (Pneumonia) (Kaggle)
Tools: Python, TensorFlow/Keras, PyTorch, OpenCV