README.md

Pneumonia Detection TensorFlow and Keras

1. Image Classification

Using Convolutional Neural Network. We will build a model to predict whether a person has 'pneumonia' based on X-Rays images. The model is created inside TensorFlow using a package called KERAS. In simple word what CNN does is, it extracts the feature of image and convert it into lower dimension without losing its characteristics.

2. The Data

I am using a dataset collected through Kaggle. It is free and you can find it here:

```
https://www.kaggle.com/paultimothymooney/chest-xray-pneumonia
```

- The data has about 6000 X-Rays images.
- It is divided into 3 files: TRAIN, TEST and VALIDATION
- In each file I was able to find 2 classes: 'NORMAL' and 'PNEUMONIA'

3. Environment and Tools

I am working with Python programming language inside Jupyter Notebook. inside this project I worked with the following tools:

- TensorFlow
- Keras
- Numpy
- Matlibplot
- Lime

4. Results

We achieved a final prediction accuracy of .90 for our test data, indicating predictions of 90% correct on average.

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Languages

- **Jupyter Notebook** 100.0%