Disease Type Prediction(hackerearth deep learning challenge #2)

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Project Proposal

We are doing the challenge presented here.

1. Introduction

Disease type diagnosis from X-rays is of low-cost and simple. However, lack of experienced doctors and high miss misdiagnosed rates makes it a challenge. We are trying to solve this problem using deep learning as well as classical machine learning techniques, with over 10,000 labeled data.

1.1. Related Works

- Learning to Read Chest X-Ray Images from 16000+ Examples Using CNN [1]

2. Dataset

We are using the dataset provided by hackerearth. The training data is split into two parts. One with X-ray pictures and disease labels. This other one includes general information of the patients, i.e., gender and age.

3. Methodology

We are planning to try different pre-trained models combined with out own self-defined layers. Apart from that, we are also planning to use general patient information as additional inputs

4. Outcome

Try to achieve over 75% accuracy on test data, try to reach a score over 0.5 (Currently the best core is about 0.38).

References

[1] Y. Dong, Y. Pan, J. Zhang, and W. Xu. Learning to read chest x-ray images from 16000+ examples using cnn. In *Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2017 IEEE/ACM International Conference on*, pages 51–57. IEEE, 2017. 1