



Pneumonia Classification

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Problem Statement

Does the patient have pneumonia?

Goal

Correct classification of patients with pneumonia



Business Value

- Software packaged in a simple GUI
- Tool to assist doctors, nurse practitioners, physicians assistants



Methodology

- 5863 chest x-rays of pediatric patients aged 1-5 from Guangzhou women
- Densely connected neural network
- Convolutional Neural Network
- Data Augmentation

Data

Pneumonia

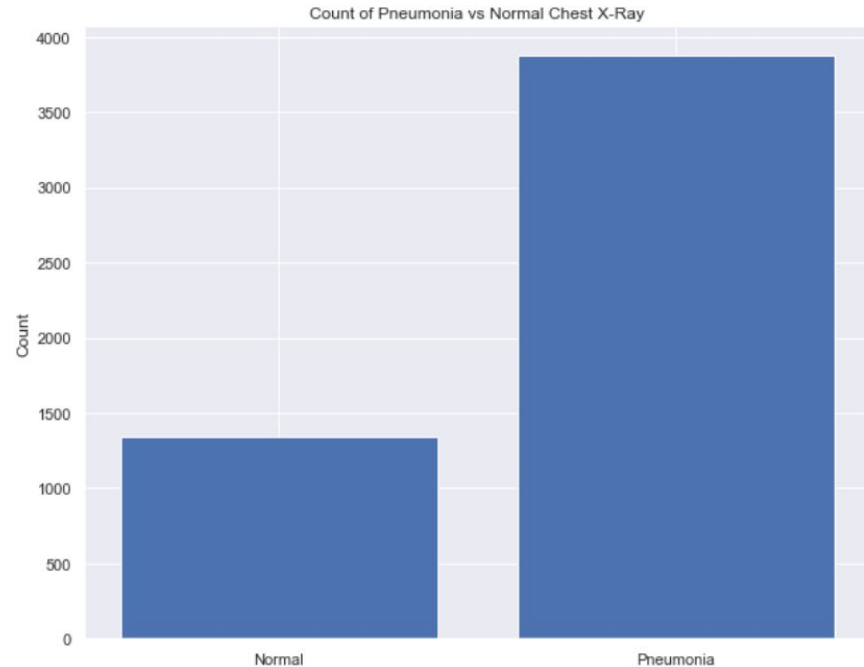


Normal

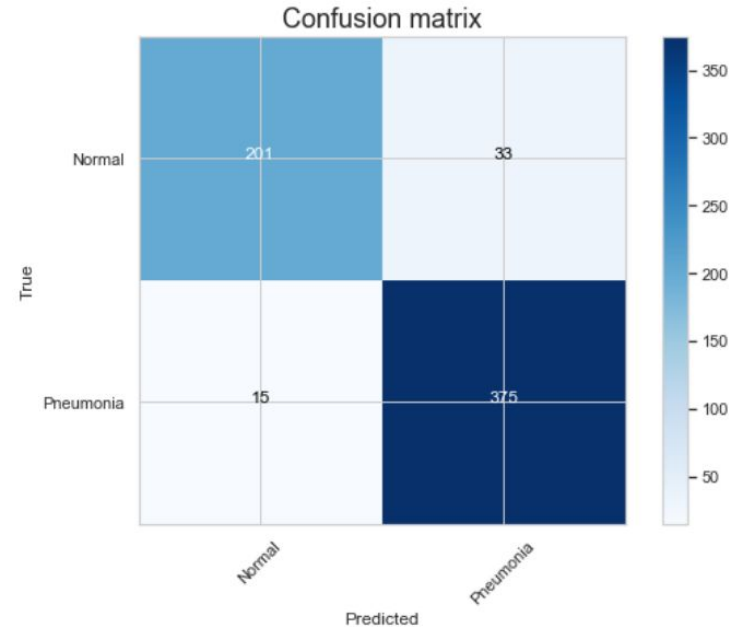
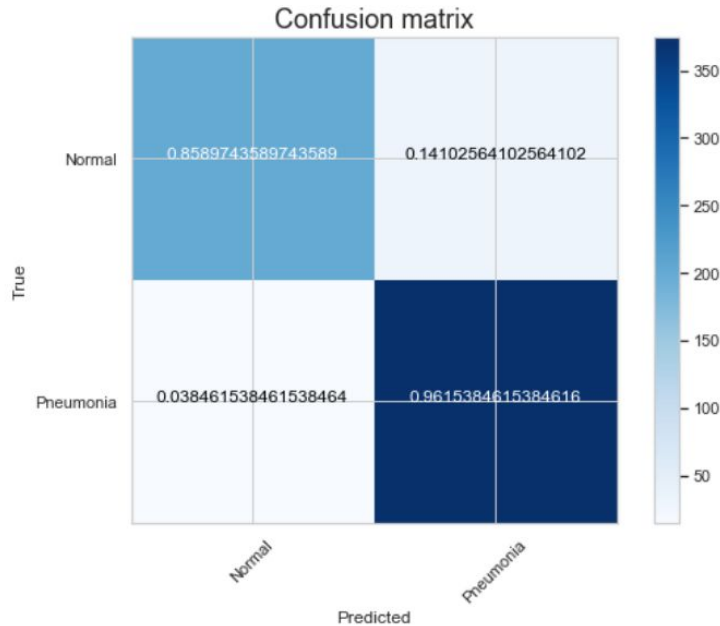


Data Balance

- 3:1 ratio
- Account for class imbalance



Model Accuracy - Confusion Matrix





Findings

- Convolutional neural networks may successfully classify pneumonia
- 96% Recall score for positive Pneumonia
- 93% Overall Accuracy



Future Work

- GridSearch different parameters
- Dataset from different countries
- Bacterial vs. Viral



Thank YOU