

Pneumonia Identification Via Deep Learning Model

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Background

- ❑ Killed 808,000 children
- ❑ 32% of pneumonia deaths
- ❑ 15% of deaths in children
- ❑ More tool diagnosis tools

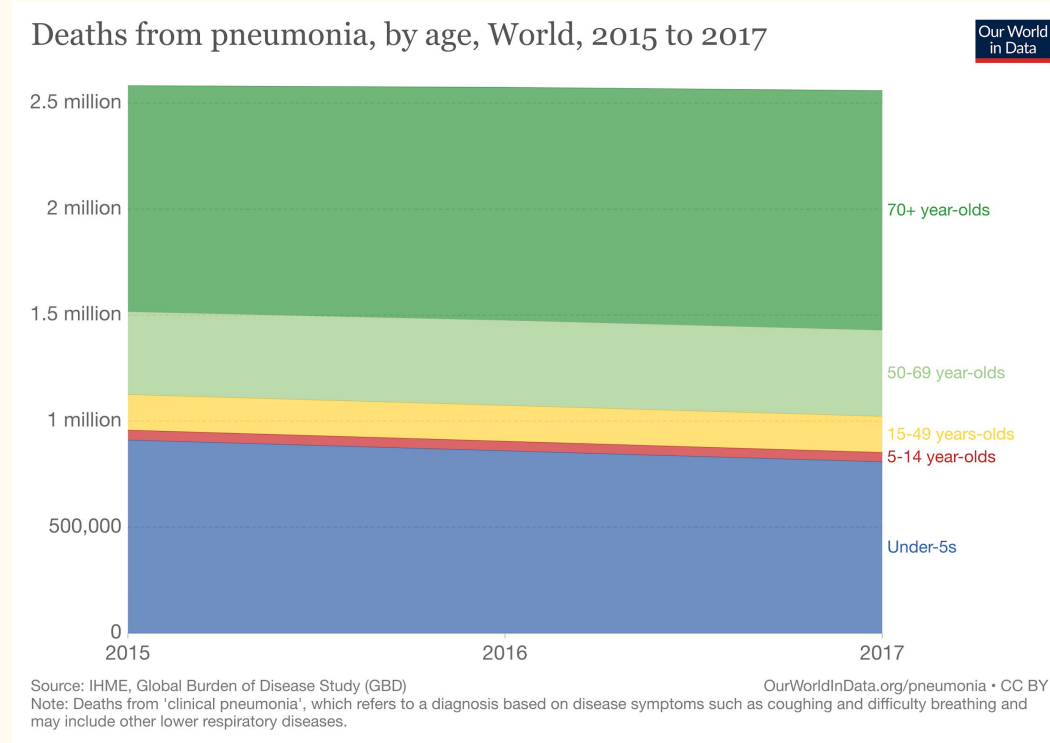
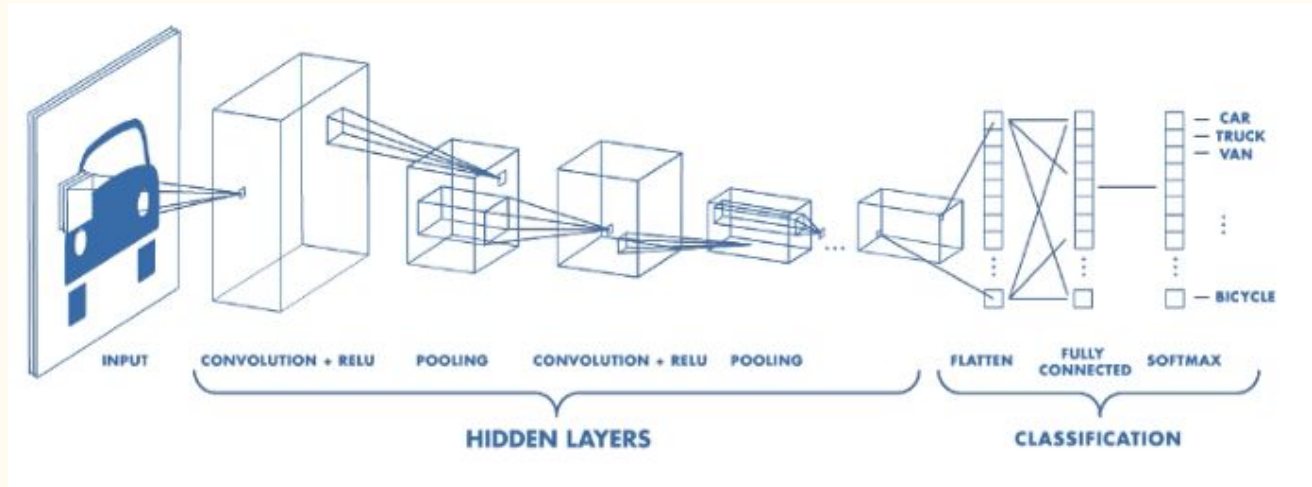


Image from: <https://ourworldindata.org/pneumonia#burden-of-pneumonia>

Statistics courtesy of https://www.who.int/health-topics/pneumonia#tab=tab_1

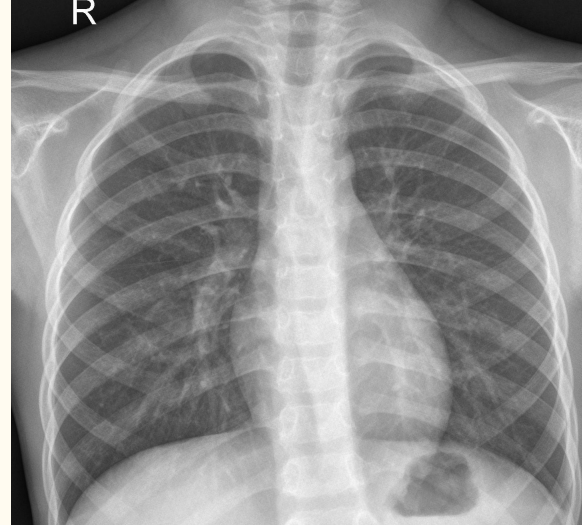
Business Understanding

- ❑ Create a proof of concept
- ❑ Convolutional Neural Network
- ❑ Can see difference between healthy lungs and infected lungs



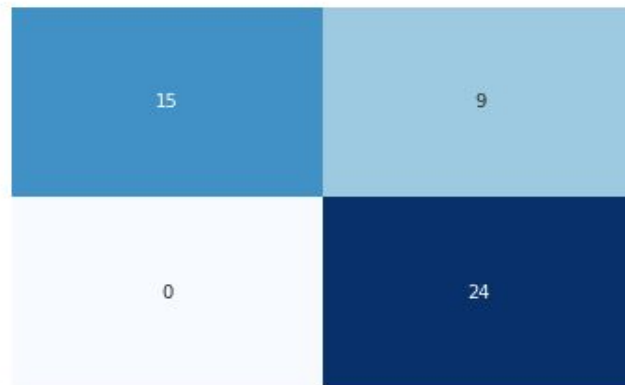
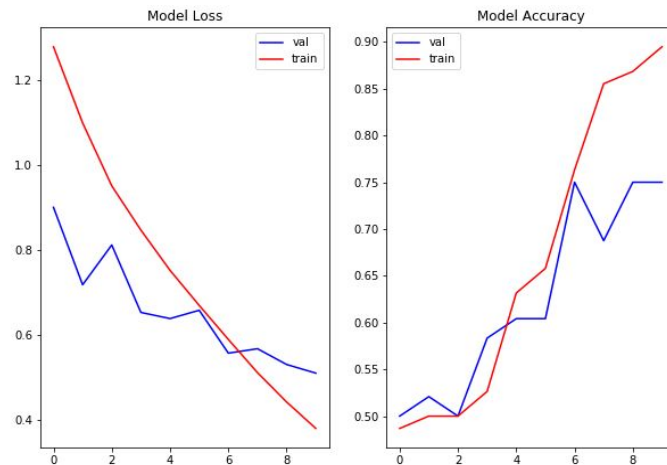
Data Summary

- ❑ Downloaded From Kaggle
- ❑ 5863 Pediatric X-ray images
- ❑ Ages range one to five years old



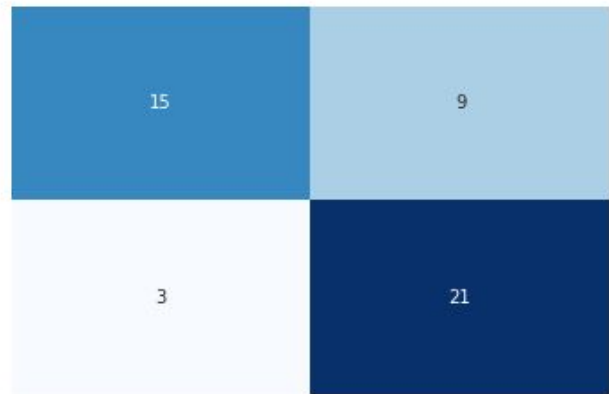
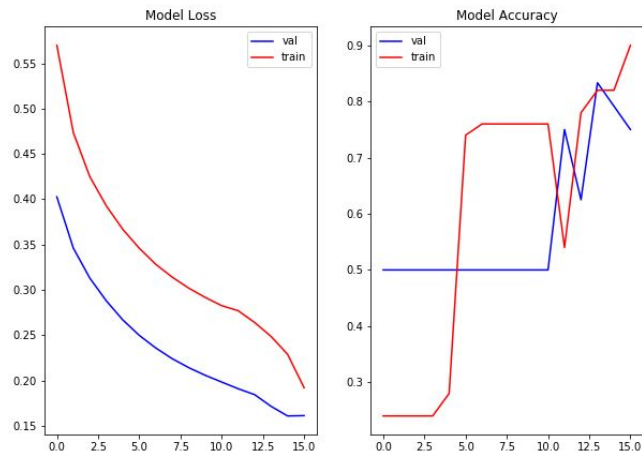
First Simple Model

- ❑ Basic model
- ❑ High loss and accuracy
- ❑ Overfit to data



Final Model

- ❑ More complicated
- ❑ Added regularization
- ❑ Binary focal loss
- ❑ High accuracy and low loss



Recommendations

- ❑ More X-rays will help the model
- ❑ Consider available resources
- ❑ Only use as diagnostic aid

Contact Information

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