

BIRKBECK, UNIVERSITY OF LONDON

Pneumonia Detection from Chest X-Ray Images Draft

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Abstract

This is placeholder text. To add more information type it after this line.

Declaration

I hearby declare this file a text.

```
import pymongo as pm
import json
# line comment
with open("DSTA/Lab/mongo.json") as f:
    url = json.load(f)
    """ Comment 1 """
    "Comment 2"

c = pm.MongoClient(url["url"])

def Myfunc(x):
    print(x)

print(c.admin)
```

and text goes on.

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1 Introduction

Pneumonia is swelling (inflammation) of the tissue in one or both lungs. It is usually formed at the end of breathing tubes of the lungs and cause these tubes to inflame and fill up with fluid. In the UK, pneumonia effects around 8 in 1000 adults each year [1]. Global economic cost of pneumonia has estimated at \$17 billion annually [2]. Currently detecting pneumonia cases heavily relies on chest X-ray image examination which requires expert radiologists to diagnose. Building intelligent system to diagnose the pneumonia can help health care services to increase efficiency and reduce costs and could help increase early diagnoses in countries with inadequate access to health care.

1.1 Related Work

There are number of research has been published about chest X-ray pathology related detection. Most prevalent ones are the CheXNet [3] and ChestX-ray14 [4], both of these research carried out by training on same dataset CheX-ray14 [4]. ChestX-ray14 comprises of 112,120 frontal view chest X-ray images labelled by extracting information from the accompanied radiologists notes with using variety of different NLP (Natural language processing) techniques.

2 Dataset

References

- [1] URL: <https://www.nhs.uk/conditions/pneumonia>.
- [2] Girish B. Nair and Michael S. Niederman. “Community-Acquired Pneumonia: An Unfinished Battle”. In: *Medical Clinics of North America* 95.6 (2011). Pulmonary Diseases, pp. 1143–1161. ISSN: 0025-7125. DOI: <https://doi.org/10.1016/j.mcna.2011.08.007>. URL: <http://www.sciencedirect.com/science/article/pii/S0025712511000927>.
- [3] Pranav Rajpurkar et al. “CheXNet: Radiologist-Level Pneumonia Detection on Chest X-Rays with Deep Learning”. In: *CoRR* abs/1711.05225 (2017).
- [4] Xiaosong Wang et al. “ChestX-ray8: Hospital-scale Chest X-ray Database and Benchmarks on Weakly-Supervised Classification and Localization of Common Thorax Diseases”. In: *CoRR* abs/1705.02315 (2017). arXiv: 1705.02315. URL: <http://arxiv.org/abs/1705.02315>.