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In Collaboration with

UNIVERSITY OF WESTMINSTER

# Deep convolutional neural networks computer-aided diagnosis of identifying Pneumonia types

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Submitted in partial fulfilment of the BEng in Software Engineering degree requirements  
at the University of Westminster.

March 2022

## **Abstraction**

Radiology is a one of the most important area in western medicine practice. It has been used to diagnose very important health issues and diseases. Generally, the disease are often diagnosed from chest X-ray images by an expert radiologist. Also early diagnosis is an important factor for a successful treatment process. But the diagnoses can be subjective and the process of detection by reading X-ray images can be time consuming for some reasons such as the appearance of disease which can be unclear in chest X-ray images or are often confused with other diseases. Therefore, computer-aided diagnosis systems are needed to guide the radiologist.

In this study, I expect to develop a system for detecting the presence of pneumonia(sub types) in the lungs. Convolutional neural network model is constructed using deep learning approaches and extract features from a given chest X-ray image and classify it to determine if a person is infected with pneumonia.

**Key Words:** Pneumonia, Deep Learning, Convolutional Neural Network, accuracy, efficiency