



KALC 2022

Korean Association for Lung Cancer International Conference
November 10-11, 2022 | Lotte Hotel World, Seoul, Korea

Implementation of Artificial Intelligence for Lung cancer Diagnosis : A Literature Review

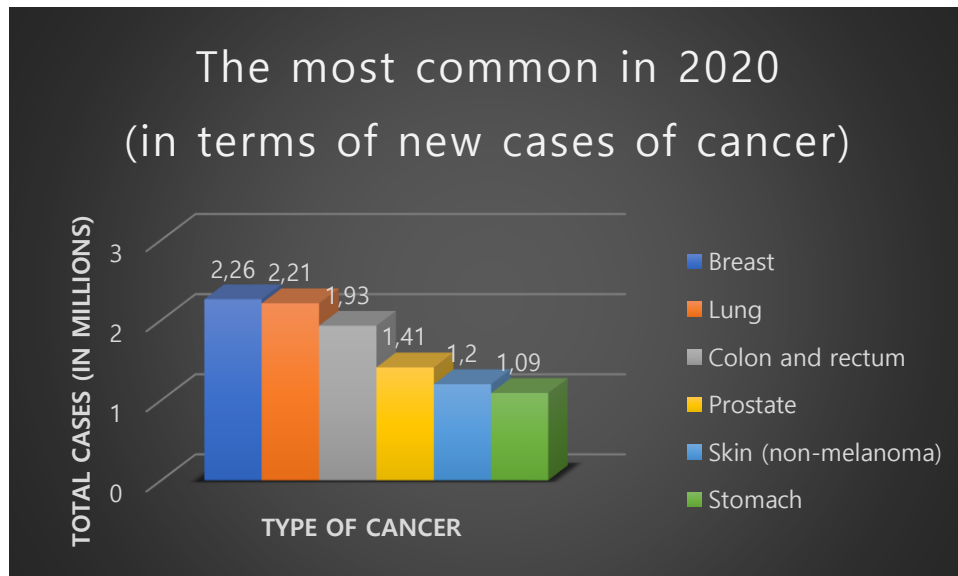
Nahya Nur

Department of Informatics, Universitas Sulawesi Barat
Indonesia



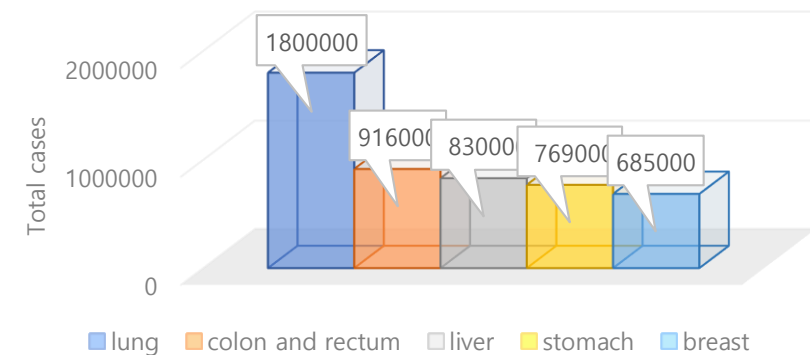
Background

Lung cancer is the second most common type of cancer after breast cancer, which is the most common in the world. Based on data obtained from **WHO**, there were 2.21 million cases in 2020.



Cases of death caused by lung cancer were ranked first with 1.80 million deaths.

The most common causes of cancer death in 2020

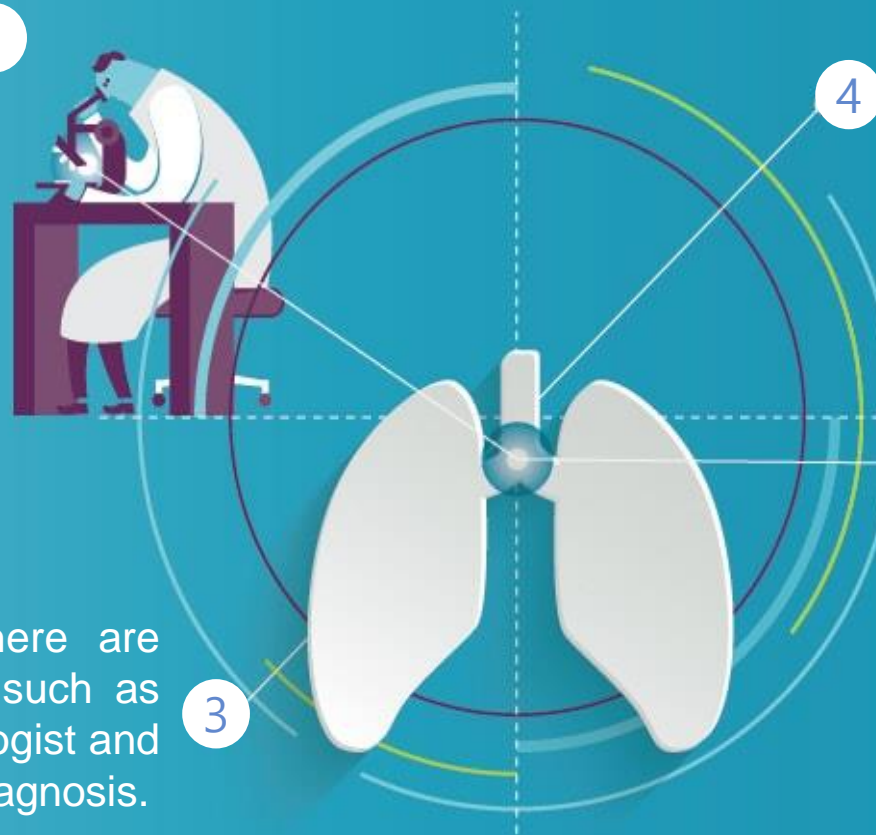


Background

1 In its early stages, lung cancer does not show any symptoms so it is very difficult to detect.

2 This also makes the disease dangerous and can lead to death. To minimize the risk that can occur, early detection can be done by screening patients

3 To perform screening, there are obstacles that can occur such as the objectivity of the radiologist and the time used to make a diagnosis.

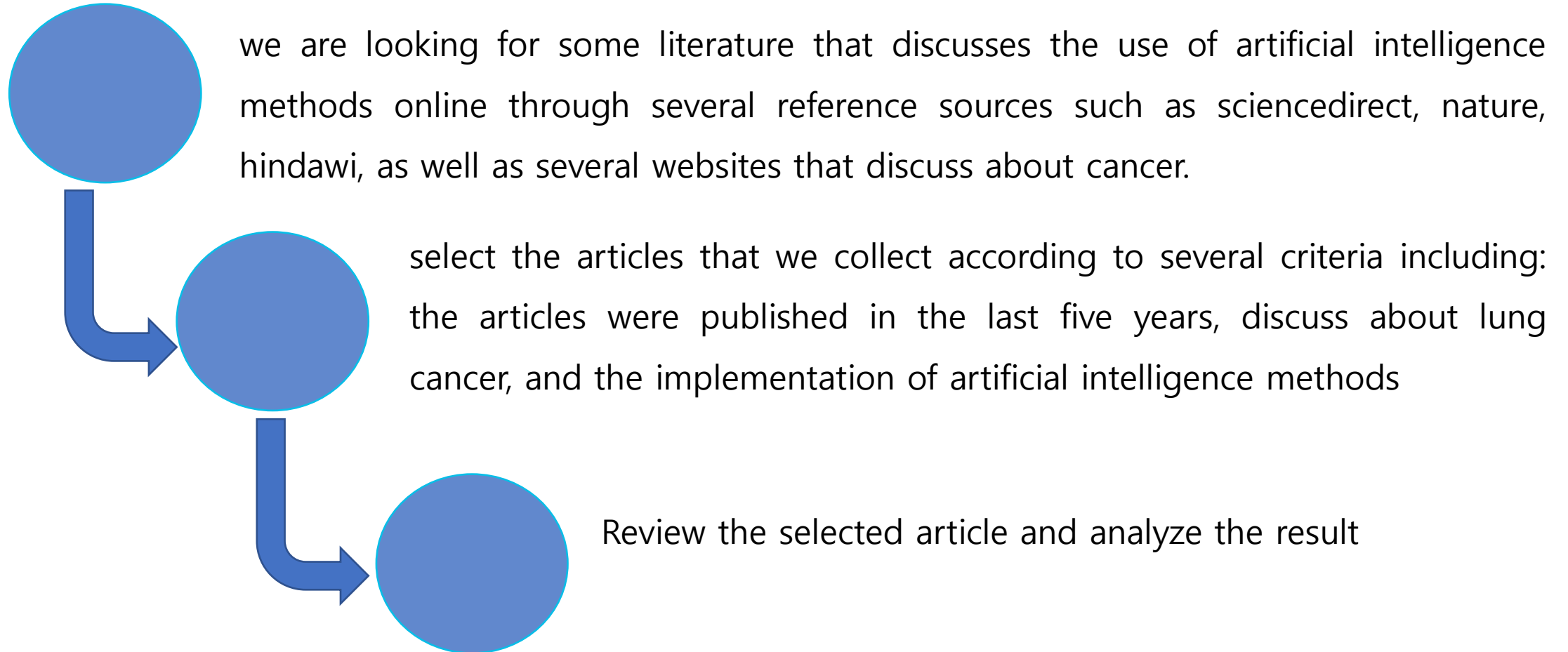


4 These problems can be overcome by utilizing artificial intelligence by using the analyzed CT Scan image data.

5 In this study, we will discuss several implementations of artificial intelligence in diagnosing lung

Src: <https://healthblog.uofmhealth.org/>

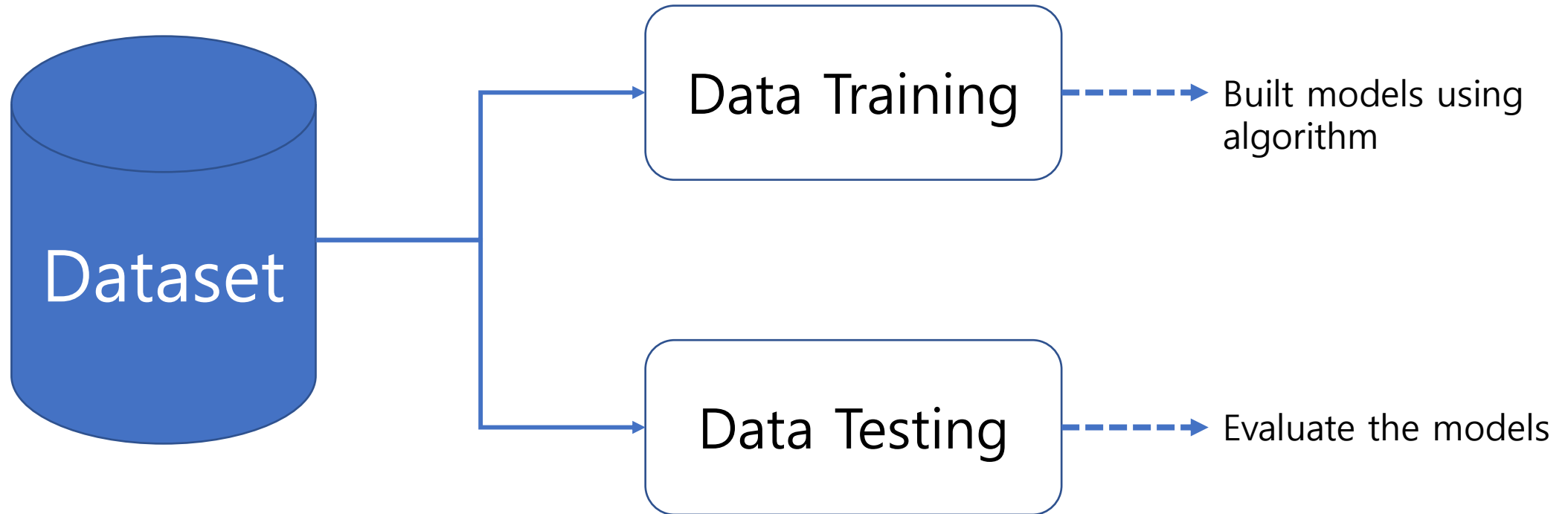
Method



Result

- The data used in diagnosing lung cancer, including chest radiographs and CT scan images.
- The data processed using artificial intelligence methods.
- Artificial intelligence makes it possible to identify data based on models that have been built from training data.

Result



Result

- The training data is used to find patterns contained in the image so that if there is new data, it can be analyzed using a model that has been built from that data.
- the more data used in the training process, the more efficient the results of the system diagnosis will be.

Result

- Several artificial intelligence methods that can be used to diagnose include artificial neural network (ANN), long short-term memory (LSTM) neural network, and the latest algorithm using deep learning in this case convolutional neural network which is a development of previous methods.

Result

The latest AI systems are based on a principle called deep learning. Deep learning works by utilizing very large amounts of data and then the system will work based on that data by finding and learning patterns from real-world examples. Because the results of the diagnosis using an artificial intelligence approach are quite high, computer aid diagnosis is often used to assist in making decisions regarding disease diagnosis.

Conclusion

- ❖ The technological approach in this case utilizes artificial intelligence algorithms to assist radiologists in diagnosing lung cancer.
- ❖ The results can be used as a second opinion and not to replace the role of the doctor.
- ❖ The results of the diagnosis using this method are expected to help the process of identifying lung cancer more objectively and efficiently.