

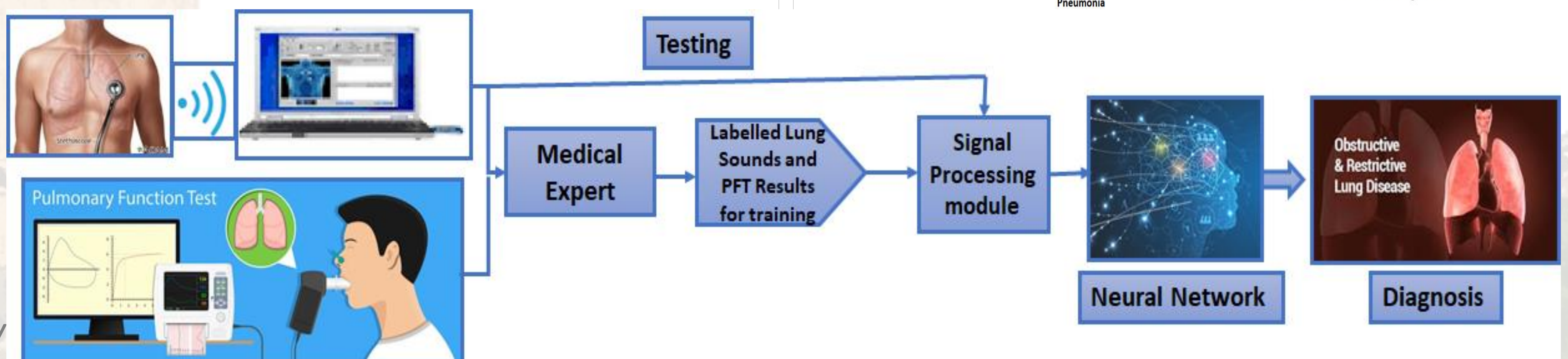
Abstract

Auscultation using stethoscope is one method which is simple, non-invasive, cost effective, easy of perform but it also depends on hearing ability of doctor. Our solution aims at providing the clinical support system for diagnosing respiratory disease at an initial level. Converting conventional stethoscope into a smart stethoscope which work as an assisting device for doctors. Smart stethoscope will record the lung sounds, pre-process them, classify them into normal or adventitious, also further diagnose whether the person is suffering from obstructive or restrictive disorder using advanced signal processing and deep learning algorithm

Introduction

- ❖ Respiratory diseases - Top 5 leading causes of death around the world.
- ❖ Auscultation based diagnosing replacing Spirometry
- ❖ Using Cutting edge technology – Deep Learning & Artificial Intelligence
- ❖ Early Detection System
- ❖ A cheap, fast and reliable solution
- ❖ Reaching the unreachable
- ❖ Noninvasive technique
- ❖ Creating a conscious society

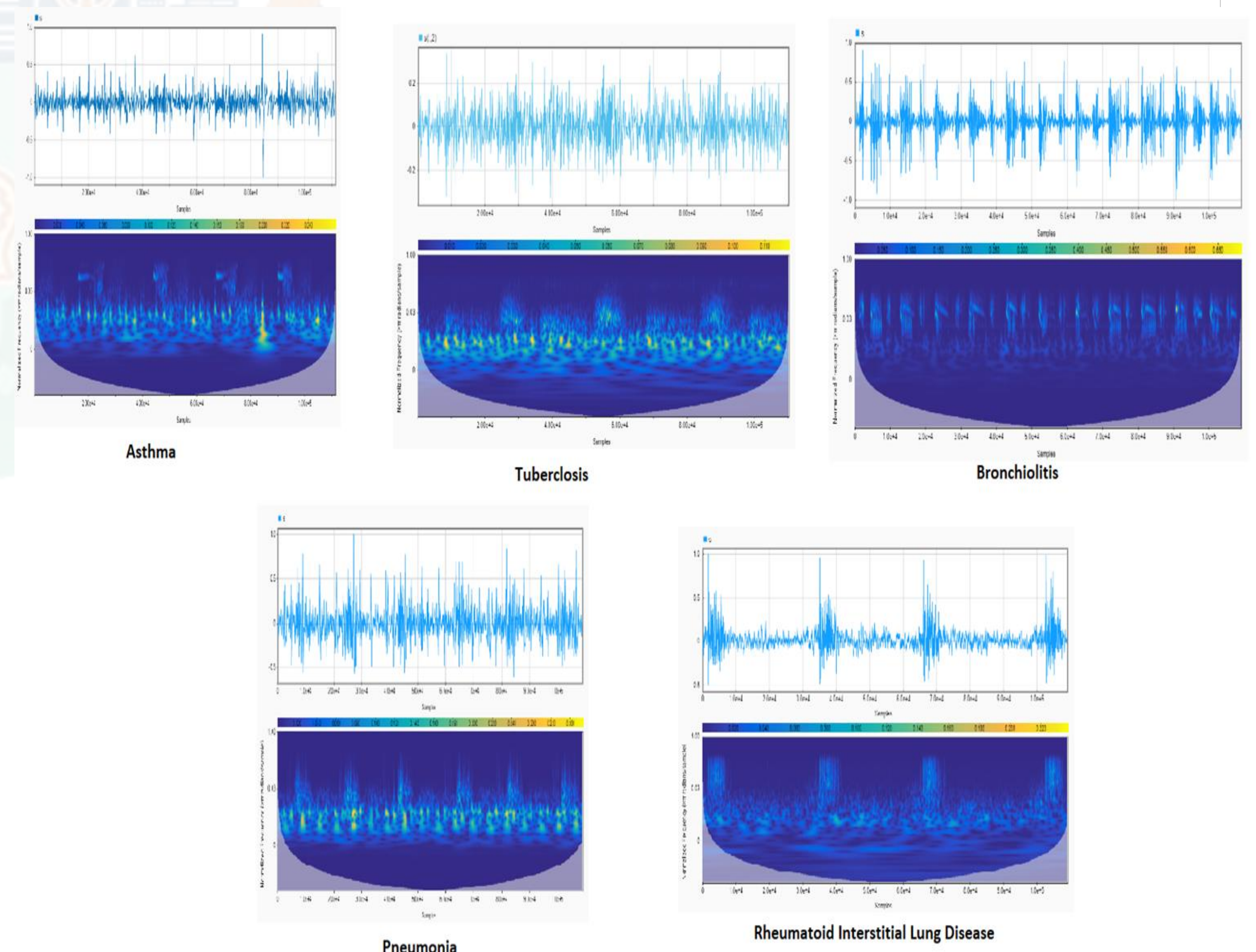
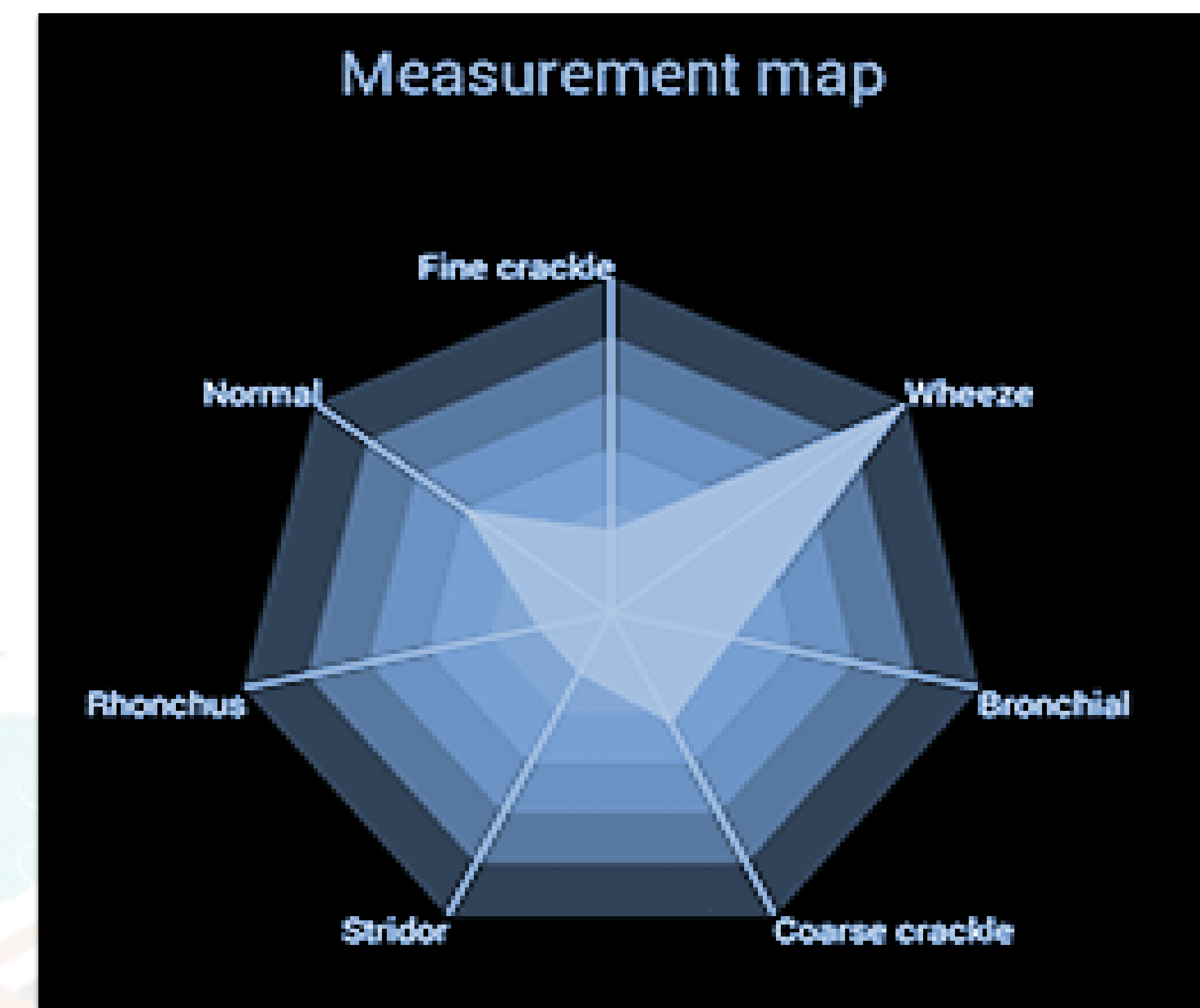
Block Diagram



Conclusions

Auscultation using a stethoscope is a technique with lots of potential because of the advanced technologies like Artificial Intelligence, deep learning, etc. Combining deep learning and advanced signal processing technique with normal stethoscope we can built an astute stethoscope which can contribute in clinical decision making by a doctor for diseases like COPD, Asthma, Emphysema, ILD, etc. Moreover this will act as very powerful tool in saving life of people as simple cough that can be COPD would be diagnosed at early stage.

Result



Industrial Significance

- ❖ Smart Stethoscope once built can assist doctors and make their task easier
- ❖ People in rural areas lacking test facilities can be diagnosed
- ❖ Subjectivity of test like spirometry is removed

Acknowledgement

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