Pneumonia Detection

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**Project Category: (**Select the major domain of proposed project**)**

* **A-**Web Page

# Introduction

Pneumonia is life taking disease and affects about 450 million people globally (7% of the population) and results in about 4 million deaths, each year. Pneumonia is an inflammatory condition of the lung primarily affecting the small air sacs known as alveoli. Pneumonia is usually caused by infection with viruses or bacteria, and less commonly by other microorganisms.

If you may have pneumonia, an imaging test may be performed to confirm the diagnosis. One or more types of test may be taken in order to evaluate pneumonia .

People can’t understand their reports (X-ray) and have to concern their doctor in the world full of technology . In today’s world, the importance of technology can’t be denied.

This site will detect the pneumonia on report given by the patient and point out that places where it has affected it. This site will just take some basic information regarding your disease and will provide you with most efficient information about disease along with some guideline and treatment. It will be done through AI and deep learning (CNN).

# Proposed System

Nothing is more valuable than life and A person in good physical and mental health may appreciate the world to the fullest and meet life’s problems with ease and comfort. Health is riches implies that health is a priceless asset rather than money or ownership of material possessions. There is no point in having money if you don’t have good health. Simply we can say “Health is Wealth ”

Early Detection of disease is lifesaving . Purpose of this site is to give you complete and efficient detail about pneumonia along with all detail in such a manner that any person can understand that easily.

# Advantages/Benefits of Proposed System

Following are some advantages of a System:

* Detection of pneumonia just by X ray image.
* Return of image with spots at point affected by pneumonia
* Treatment and guideline to cure pneumonia
* Can check his all previous reports
* Can contact to doctor for complete guidance

# Scope

Our project will be a web based application which will start off with a sign in or signup. Once into the account there will be a simple page with take symptoms of disease and if needed it will take Xray image as well. If required image it will provide an option to enter image . After getting the image the site will work on it and return an image having spots on area if affected by pneumonia. Site will provide treatment and guidelines to cure pneumonia and also provide an option to contact the doctor for complete guidance.

# Modules

There are major modules of the system based on the functionalities. They are listed as follow along with their details:

## Module 1: User profiling

This module provides users the ability to have their own profiles through which they can login and use the application. In this way each user will have their own private account and their own saved data which can only be accessed by a username and password.

The features involved in this module are:

* Enter Number
* Enter Password

## Module 2: Patient Management

This module provides user to see his details. Such as:

* Name
* Previous history
* Address
* Gender
* Number

This all information will be shown to the user/patient. User will not be able to add anything this will be view only.

## Module 3: Feature Extraction using cnn

All the information regarding person is shown and Admin can also add that information of all people.

## Module 4: Detection through Data Mining

All the loan you register and the amount you paid is shown and will be updated by admin

## Module 5: Report with Treatment

Your information about study i.e. from where you study and took how many marks will be shown and will be updated after your more studies.

# System Limitations/Constraints

* Knowledge of Technology and Software.
* Need Stable Internet Connection
* Should also know basic English

# Tools and Technologies

Table 1 Tools and Technologies for Proposed Project

|  |  |  |  |
| --- | --- | --- | --- |
| **Tools**  **And**  **Technologies** | **Tools** | **Version** | **Rationale** |
| PyCharm | 2021.1.2 | IDE |
| MS Word | 2019 | Documentation |
| WebStorm | 2021.1.2 | IDE |
| MongoDB Server | 5.0 | DBMS |
| **Technology** | **Version** | **Rationale** |
| Python | 3.10.2 | Programming language |
| HTML | 5 | Web development language |
| CSS | 2021 | Style sheet language |
| Bootstrap | 5 | CSS Framework |
| SQL | 2013 | Query Language |

# Project Stakeholders

The stakeholders involved in this system are stated below:

|  |  |
| --- | --- |
| **Project Sponsor** | COMSATS University Islamabad |
| **Stakeholder** | * **Ehtisham Ejaz** * **Hashir Hamid** * **Dr. Imran** |

# Conclusion

We hope that this project proves useful in detecting pneumonia and providing basic treatment .

# References

<https://en.wikipedia.org/wiki/Pneumonia>

<https://www.radiologyinfo.org/en/info/pneumonia#:~:text=If%20your%20doctor%20thinks%20you,determine%20if%20you%20have%20pneumonia>.

<https://www.hopkinsmedicine.org/health/conditions-and-diseases/pneumonia#:~:text=The%20main%20types%20of%20pneumonia%20are%20bacterial%2C%20viral%2C%20and%20mycoplasma,low%20energy%2C%20and%20extreme%20tiredness>.