**MINOR PROJECT 2**

**SYNOPSIS**

**ON**

**Chest-X-Ray Analyzer**

**Submitted By**

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II

**Minor**

**PROJECT TITLE: Chest-X-Ray Analyzer**

**Abstract:**

Advances in machine learning and artificial intelligence techniques promise to increase computer-assisted diagnostic tests quickly, accurately, and reliably. And such strategies are important exclusively in areas with heavy loads or resources. These regions often show an increase in infectious diseases and report high mortality. Our research in machine learning and artificial intelligence algorithms aims to improve diagnostic accuracy and reliability, with the aim of defining and behaving algorithms considering Chest-X-Ray analysis as an area of our interest.

**Table of Content:**

|  |  |
| --- | --- |
| TOPICS | Page No. |
| INTRODUCTION | 3 |
| LITERATURE REVIEW | 4 |
| PROBLEM STATEMENT | 5 |
| OBJECTIVE | 5 |
| METHODOLOGY | 6 |
| SYSTEM REQUIREMENTS | 7 |
| UML DIAGRAMS | 8 |
| SCHEDULE/PERT CHART | 9 |
| KEYWORDS | 10 |
| REFERENCES | 11 |

**Introduction:**

Chest X-Rays analysis is an effective research tool for medical image analysis and computer-assisted radiology diagnostics. The main goal is to improve the quality and productivity of radiologists by providing a computerized diagnostic and diagnostic system. A number of studies have been conducted on the use of machine learning techniques to produce a high-quality X-ray image separation method. Some review papers also have been published discussing various aspects of medical imaging analysis and computer-assisted radiology diagnostics. But here we are trying to complete existing methods by pointing to methods of chest X-ray imaging in the use of machine learning techniques. Our review begins with basic information for medical image analysis, chest radiography, and machine learning.

Introduction to Machine Learning Image acquisition, image formation, image analysis, and image-based visualization are part of computer-based processing and medical imaging analysis. Medical image analysis has evolved into a variety of indicators including pattern recognition, image extraction, computer vision, and machine learning. Meanwhile, Computer-Aided Diagnosis (CAD) has been part of the development of medical imaging analysis to support automated diagnosis and differentiation of various diseases. Radiology is a branch of medical science that uses imaging and radiation technology to diagnose and treat diseases. In radiology, CAD has been promoted as providing a "second opinion" to assist in the study of the radiologists' picture of Chest X-Rays (CXRs) in detecting the presence of the disease . There are various types of conditions and diseases that can be diagnosed such as atelectasis, constipation, infiltration, pneumothorax, edema, emphysema, fibrosis, effusion, pneumonia, pleural stiffness, cardiomegaly, nodule mass, ne hernia. In addition, many respiratory infections are highly dependent on CXR. One of the most important tasks in developing CAD capacity is to detect and separate infections from CXRs automatically. These applications can help improve the quality and productivity of radiologists' work by increasing the accuracy and consistency of radiology diagnostics and reducing image study time.

**Literature Review:**

**Problem Statement:**

**Objectives:**

**Methodology:**

**System Requirements: (Software/Hardware)**

**UML Diagrams**

**Schedule: (PERT Chart)**

**References:**

\* The Front should contain Project Name, Partial Submission for Minor, Students name, Enrollment No, SAP Id no, Mentor Name

**Approved By**

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**Project Guide Head of Department**