Report Breakdown

# Chapter 1 introduction

## Background

Overview of Prostate Cancer, its significance and the challenges in the detection

## Problem statement

Specific problem my project is addressing

## justification of the study

why this study is important and its potential impact

## Research questions

Research questions that I want to answer by this project

## Aims and objectives

Project aims and objectives

# Chapter 2 Literature review

## 2.1 overview of the prostate cancer

* About prostate cancer and its biology
* Current detection methods

## 2.2 Machine learning in medical imaging

* Application of machine learning in medical imaging
* Advantages and challenges

## 2.3 Machine learning techniques for cancer detection

* Supervised learning
* Unsupervised learning
* Deep learning

## 2.4 Related work

This section is about the previous studies about the prostate cancer detection using the machine learning.

Table showing all the papers for the literature review (try to include 10 papers)

|  |  |  |  |
| --- | --- | --- | --- |
| Paper | Classifiers | Dataset Used | Results |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 2.5 summary of findings

* Comparison of results
* Discussion on the best performing techniques

# Chapter 3 Research methodology

## 3.1 Overview

Outline of the research approach

## 3.2 Data collection

Description of the dataset and source of the dataset

## 3.3 Data Preprocessing

Explaining the pre-processing steps

## 3.4 Feature Selection

Explaining what are the features consider for the model training and any methods done for choosing those features

## 3.5 Model Development

Machine learning models used in the project. Their parameters, architecture and training process

## 3.6 Model evaluation

Accuracy, precision, recall, F1-Score

# Chapter 4 results and analysis

## 4.1 Data analysis

Viewing of the dataset and understanding about the dataset, preprocessing, feature selection

## 4.2 Model performance

detailed results of the model training and evaluation, including the confusion matrix etc

## 4.3 Comparison with the existing methods

Comparing the model’s performance with the literature reviewed models’ performance

# Chapter 5 Conclusion and the future work

## 5.1 conclusion

## 5.2 limitations

## 5.3 recommendations for the future work