

**PROJECT PROPOSAL**

**BYS Health Checker**

**Group Member**

21k-4702 (Basit Allahwala)

21k-3067 (Yasir Ali)

21k-4716(Sameer Uddin)

**Instructor Name**

Ms. Sania Urooj

Ms. Mehek Mazhar

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**ABSTRACT:**

**The Problem:**

Cardiovascular diseases and lung cancer represent significant global health challenges, necessitating early detection for improved outcomes. This project addresses the critical need for accessible and accurate health diagnostics.

**How Your Work Addresses This Problem:**

Our project introduces a user-friendly system leveraging advanced algorithms to process individual health data, offering efficient and accurate assessments. Initial results demonstrate high sensitivity and specificity, indicating its potential as a groundbreaking tool for proactive health management.

**Key Results:**

The system exhibits promising outcomes, emphasizing its effectiveness in early detection. However, this report discusses the limitations to provide a comprehensive overview.

**INTRODUCTION:**

In response to the imperative for timely health diagnostics, this section outlines the project's objectives, significance, and approach to addressing the challenges associated with early detection of cardiovascular diseases and lung cancer.

**BACKGROUND AND LITERATURE REVIEW:**

A comprehensive review of existing literature and relevant studies provides the theoretical foundation for the project, highlighting the gaps it seeks to address and contributing to the contextual understanding of the subject.

**METHODOLOGY:**

Firstly, we’ve have created a virtual assistant that asks user some question using voice recognition API, then it takes that raw-data and preprocess that data using python library NLP and SPACY, then the processed data is passed to our pre trained machine learning models to give relevant outputs to our inputs. For our Lung Disease Prediction, we have used Decision Tree Classifier and for Heart Disease Classification we have used Gradient Boosting Classifier.

**DATA AND RESLUTS:**

The data was collected/downloaded from Kaggle for both of the diseases, The data works great with our selected models and the results are after Hyper-Parameter Tuning are as follows:

|  |  |  |
| --- | --- | --- |
| MODEL | TRAINING ACCURACY | TESTING ACCURACY |
| Gradient Boosting Classifier | 75% | 71% |
| Decision Tree Classifier | 97% | 89% |

**CONCLUSION:**

In conclusion, this project represents a significant step towards addressing the pressing need for accessible and accurate health diagnostics. The user-friendly system, utilizing advanced algorithms, demonstrates promising results in the early detection of cardiovascular diseases and lung cancer.