



DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

1. Project Title: -

An Improved Machine Learning-driven Patient's Sickness or Health Status Prediction System

2. Project Scope: -

The objective of this project is to develop an improved machine learning-driven system that can predict patients' sickness or health status accurately. The system will use a variety of data sources, including electronic health records, medical imaging, and other clinical data, to predict patients' conditions and suggest possible treatment options.

The project will involve the following key activities:

- **Data Collection:** Collecting patient data, including electronic health records, medical imaging data, and other clinical data, and storing it in a database for analysis.
- **Data Pre-processing:** The collected data will be preprocessed, including cleaning, normalization, and feature extraction. This will ensure the quality of the data, which will be used for training the machine learning models.
- **Machine Learning Model Selection:** A variety of machine learning algorithms will be tested to select the best model, which will provide the most accurate predictions.
- **Model Training:** The selected machine learning models will be trained on the pre-processed data to generate prediction models.
- **Model Evaluation:** The trained models will be evaluated using a variety of metrics such as accuracy, precision, recall, and F1-score, to determine the performance of the model.
- **System Development:** The prediction system will be developed, which will allow input of patient data, model prediction, and visualization of the results.

3. Requirements: -

➤ Hardware Requirements

1. Processor Intel i3 5th / Ryzen 3000 and Above
2. Minimum 2 GB RAM
3. GPU

➤ Software Requirements

1. **Data Preprocessing Tools:** The data preprocessing stage will require tools for cleaning, normalization, and feature extraction. This may include tools like pandas, NumPy, and Scikit-Learn.
2. **Machine Learning Libraries:** The project will require a variety of machine learning libraries to train and test the prediction models. Popular options include TensorFlow, PyTorch, and Scikit-Learn.
3. **Visualization Tools:** The prediction system should include visualization tools to enable users to interact with the prediction results. Popular options include Matplotlib, Bokeh, and Plotly.
4. **Operating System:** The project can be developed and run on any popular operating system, including Windows, Linux, or macOS.
5. **Integrated Development Environment:** An integrated development environment (IDE) can be used for coding, testing, and debugging. Popular options include PyCharm, VSCode, and Spyder.

STUDENTS DETAILS

Name	UID	Signature
Shreya Jadon	20BCS6769	
Hitesh Kumar	20BCS6157	
Kunal	20BCS6278	

APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)
Mr.Siddharth Kumar (E12853)	Supervisor	