ANALYTICS FOR HOSPITAL HEALTH CARE DATA

SUBMITTED BY ,

AGS.Jimson

Venciya R

Vishnu K

Tamil Kumaran C

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING

Problem solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	To accurately predict the Length of Stay for each patient on case-by-case basis so that the Hospitals can use this information for optimal resource allocation and better functioning. The length of stay is divided into 11 different classes ranging from 0-10 days to more than 100 days.
2.	Idea / Solution description	The goal is to predict the length of stay using predictive analytic tools such as neural network and decision trees that makes predictions using historical data combined with statistical modelling. We are collecting and interpreting data from multiple sources like cost reports, electronic health record (EHR), etc. and then building models and analysing data to uncover the trends and patterns using data visualization techniques.
3.	Novelty / Uniqueness	Healthcare data tends to reside in multiple places. Aggregating this data into a single, central system, makes our solution unique moreover the use of specific algorithms help us achieve more accuracy.

4.	Social Impact / Customer Satisfaction	Data Analytics offers predictive solutions that are able to anticipate visits and admission rates. These solutions reduce labour costs and improve customer service, as well as reducing wait times and providing better quality care. The symptoms of diseases can be detected at a very early stage using data mining techniques, so that number of days for recovery can be predicted easily. It helps to boost productivity in diagnosis and treatment.
5.	Business Model (Revenue Model)	The length of stay (LOS) of a patient and the available resources go hand in hand. By
		understanding the average LOS, we would definitely be able to plan better and provide immediate help with both resources and medical support. Our model helps with understanding the pattern behind the disease, the LOS and the resource utilised. Also, as the more number of predictions we make the better the accuracy gets. This way hospitals are able to accommodate well without spending too much or too little money on resources.
6.	Scalability of the Solution	Hospital's data grows day by day and with more data we would be able to provide more accuracy. Data Mining and prediction techniques are used here for tracking the availability of resources for handling emergencies. This is why scalability is seen as an advantage over here.