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Hospital Readmission Prediction of Patients using Deep Neural Networks

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1 Problem Statement

To predict whether a patient will be readmitted or not using a dataset of 70,000 Clinical Database Records with Deep Neural Networks.

2 Methodology

The first task is to preprocess the raw dataset. After the preprocessing, we will be using Deep Neural Network (DNN) to predict patients readmitted. In the base paper, the impact of HbA1c measurement was used to predict readmission rate using multivariate logistic regression but we will advance this and use DNN to predict whether a patient will be readmitted or not on several factors and not only on HbA1c test.

3 Experimental Setup (Dataset, Software, Hardware Used)

Data Set Information:
The dataset represents 10 years (1999-2008) of clinical care at 130 US hospitals and integrated delivery networks. It includes over 50 features representing patient and hospital outcomes. Information was extracted from the database for encounters that satisfied the following criteria:
(1) It is an inpatient encounter (a hospital admission).
(2) The length of stay was at least 1 day and at most 14 days.