Machine Learning Based Patient Classification In Emergency Department

This work contains the classification of patients in an Emergency Department in a hospital according to their critical conditions. Machine learning can be applied based on the patient’s condition to quickly determine if the patient requires urgent medical intervention from the clinicians or not. Basic vital signs like Systolic Blood Pressure (SBP), Diastolic Blood Pressure (DBP), Respiratory Rate (RR), Oxygen saturation (SPO2), Random Blood Sugar (RBS), Temperature, Pulse Rate (PR) are used as the input for the patients’ risk level identification. High-risk or non-risk categories are considered as the output for patient classification. Basic machine learning techniques such as LR, Gaussian NB, SVM, KNN and DT are used for the classification. Precision, recall, and F1-score are considered for the evaluation. The decision tree gives best F1-score of 77.67 for the risk level classification of the imbalanced dataset.