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Comparative analysis of machine learning algorithms' ability to predict in-hospital mortality in Myocardial Infarction patients

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Timsina, Jigyasha, "Comparative analysis of machine learning algorithms' ability to predict in-hospital mortality in Myocardial Infarction patients" (2020). *Health Informatics and Bioinformatics Capstone Projects*. 4.

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[Title]
HIB Capstone

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Abstract: Objective: This paper presents the result from performance evaluation of various machine learning algorithms in mortality prediction in case myocardial infarction patients. Availability of such information can be a useful tool to clinicians as well as patient in making informed decisions.

Materials and Method:

The data were taken from electronic health records available through MIMIC III v1.4 database. Prediction ability was tested for Logistic Regression, Decision Tree, Random Forest and Support Vector Machine using R statistical software.

Result:

Logistic Regression and Random Forest had similar accuracy of about 74%, which was the highest among all the algorithm tested. Decision Tree was found to have the worst performance with accuracy measure of around 66%.

Conclusion:

Predictive analysis can be a great asset in clinical settings. Though the findings of this project could have been better, it can still be viewed as a guide for future works considering the fact that these algorithms did have a "fair" performance despite several limitations of this project.

[Abstract]