MACHINE LEARNING
CO-327
PROJECT PROPOSAL

PREDICTICTION OF NEONATAL HYPERBILIRUBINEMIA

SUBMITTED BY
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- THE AUTHORS WISHES TO THANK DR.PRASHANT GIRIDHAR SHAMBHARKAR

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WE HOPE OUR SUBMISSION IS IN ACCORDANCE WITH THE EXPECTED PROPOSAL.

KEYWORDS: NEONATAL HYPERBILIRUBINEMIA, LOGISTIC REGRESSION, RETROSPECTIVE DATA

ABSTRACT

Neonatal hyperbilirubinemia is the most common pathology in neonates and one of the major reasons for a hospitalization in the first year of life. Almost 10% of newborn infants develop significant hyperbilirubinemia, defined as a bilirubin level above the 95th percentile at a given age in hours and a substantial amount require phototherapy treatment. Therefore, we hope that the individualized proposed plan could be presented so as to decrease the incidence of subsequent hyperbilirubinemia that requires phototherapy.

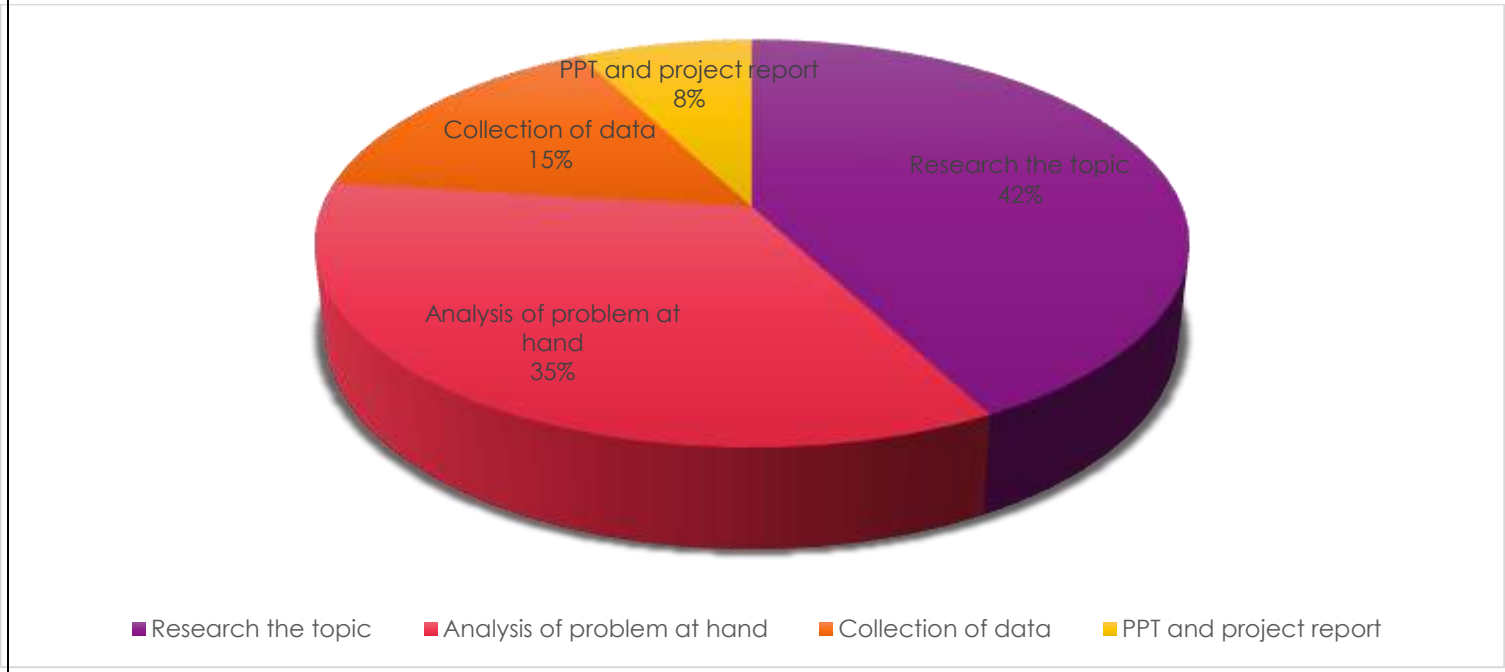
MOTIVATION

The prime motivation behind this project is to understand and integrate the concept of machine learning algorithms - logistic regression: univariant logistic regression, multivariate logistic regression and AUROC value in identifying high-risk newborns who will subsequently develop significant hyperbilirubinemia-days 4 to 10 of life by using the clinical data from the first three days of life. Through this project we expect to propose a prediction model: which would estimate the risk of subsequent neonatal hyperbilirubinemia in each individual infant that could be possible with higher accuracy.

PLAN OF ACTION

Identifying valuable resources and data. Figuring out relevant texts, research papers and blogs related to the topic.
Understanding the biological, physical and computational background of the project. Detail analysis of breast-feeding hyperbilirubinemia is expected to be done.
Deep understanding of machine learning algorithms, logistic regression and its mathematics to be undertaken.
Problem at hand is to collect clinical data for the project. Extensive retrospective data is required for the implementation of project which would be figured out in later stages of project.

EXPECTED ANALYSIS



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