SET PROJECT - FALL SEMESTER 2023 - 2024

A Data-Driven Approach to Hospital Readmissions in Diabetic Patients

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GUIDE

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Outline

- Introduction
- Review of Related Literature
- Methodology
- Project Timeline

Introduction

- **Objective**: To predict diabetes patients at risk of hospital readmission, reducing costs and patient disruption.
- **Approach**: Utilizing statistical tools such as Naive Bayes, Decision Trees, Random Forests, and custom Neural Networks.
- **Significance**: Aids healthcare providers in decision-making, cuts down unnecessary readmissions, and improves patient care.

Review of Related Literature

Prior studies have explored various aspects of hospital readmission prediction for diabetic patients, but the Gaps we had found were:

- Limited emphasis on the use of deep learning models in readmission prediction.
- Variability in the identification of factors associated with scheduled and unscheduled readmissions.
- The comparative performance of different Classification Algorithms.

Methodology

- **Dataset Used -** The dataset represents ten years (1999-2008) of clinical care at 130 US hospitals and integrated delivery.
- **Data Preprocessing** - Cleaning the dataset without Missing Values and performing Feature Encoding.
- **Data Split** - Splitted the clean dataset as 75% Training Data and 25% Test Data.
- **Pre-built Model Fitting** - Trained & fitted pre-built models i.e., Random Forests, Decision Tress, etc.
- **Building a Custom Neural Network**

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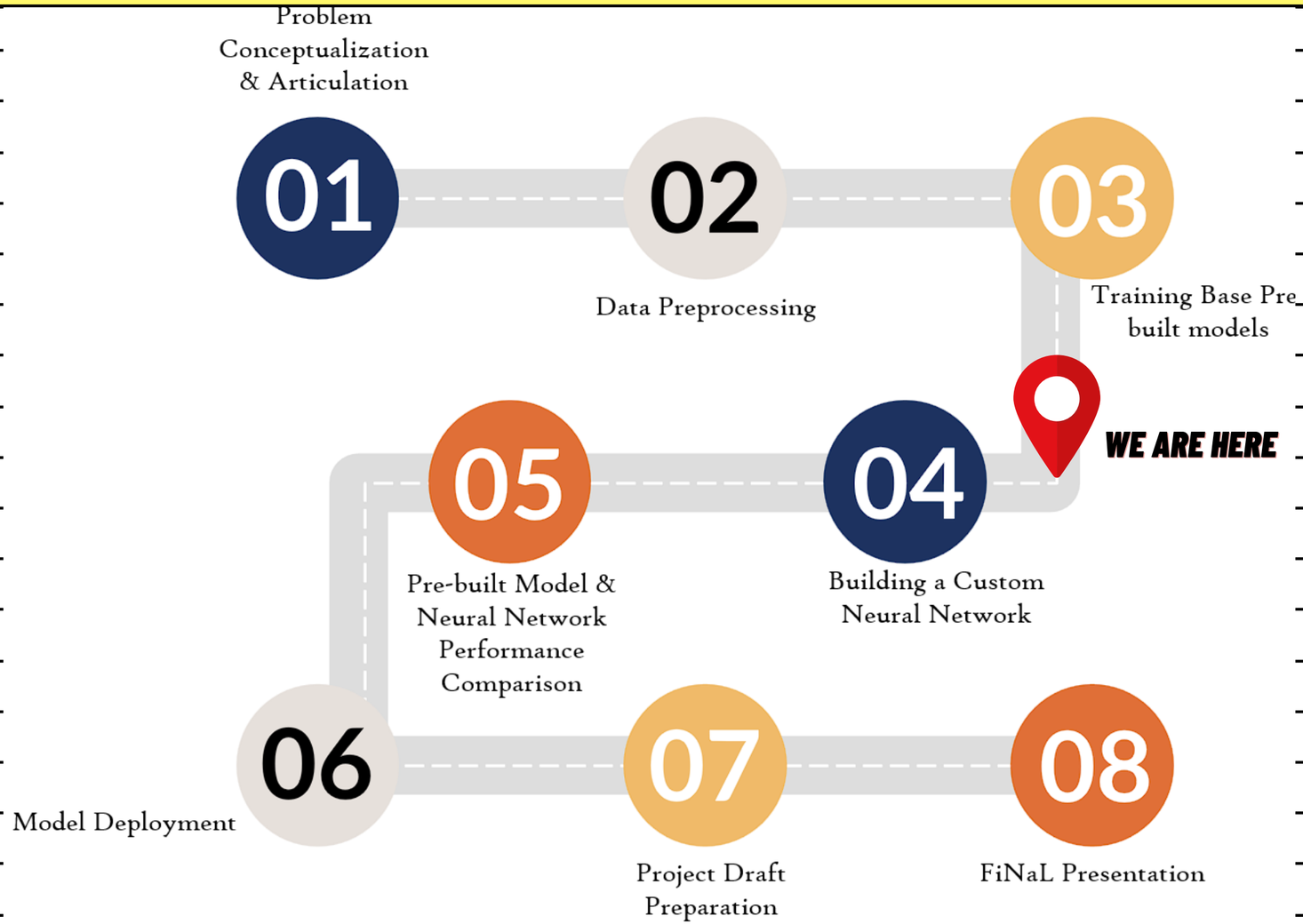
Project Timeline



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THANK YOU