



# CMPT 3830: Project Proposal Template

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## Team Name:

Regression Rebels

## Team Member details:

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- Spandan Dahal - 3092592, sdahal92@norquest.ca
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## 1. Project Title:

Vehicle Sales Time Prediction Model for Go Auto

## 2. Project Overview:

### - Objective:

The main objective of our project is to develop a machine learning model that will predict days it will take for a vehicle to sell based on various features, aiding Go Auto in optimizing inventory management and pricing strategies. This project will help Go Auto to make a better decisions about how to manage their cars and at what rate they should sell the car so its beneficial for both the customer and GoAuto. Our team will also learn new skills in working with data and building Machine Learning models.

### - Background:

Go Auto, an automotive dealership, seeks to improve its inventory turnover and pricing decisions. By leveraging machine learning, the company aims to gain insights into factors affecting vehicle sales time.

Car dealerships companies like Go Auto have many cars to sale and need to figure out how long each car will stay on the market so they can adjust the price and other things accordingly . This is important because it helps them decide when to lower prices or offer special deals. Go Auto has a lot of data about cars they've sold before which is given to us that will help us build a program to predict how long it will take to sell a car. This prediction will help the dealership plan their sales better, set the right price for cars, and tell customers how long they might have to wait to buy certain cars.



### - Scope:

In this project, our first priority will be on cleaning up the data and making sure it's ready for use and has everything we need to build the model . We will build a model that predicts how long a car will stay for sale, using important details like its price, mileage, and age. After building the model, we will improve it to make sure it gives accurate results. We will also create easy-to-understand charts using PowerBI or Looker Studio to show our findings. We won't include things like special promotions or deals in our analysis because they aren't part of the data we have.

### 3. Project Deliverables:

Deliverable 1	Demo 1: Presentation Submission
Deliverable 2	Phase 1: Report Submission
Deliverable 3	Demo 2: Presentation Submission
Deliverable 4	Final Demo: Presentation

### 4. Project Timeline:

Milestone	Completion Date
Data Exploration and Cleaning	September 30, 2024
Initial Model Development	October 20, 2024
Visualization and Final Insights	November 25, 2024
Final Presentation to Go Auto	December 10, 2024

### 5. Project Plan:

Task	Owner	Due Date
Data Processing	Rohit	October 01, 2024
Model Development	Spandan Dahal	October 18, 2024
Visualization Creation	Abhinav Datt	October 30, 2024
Project Coordination	Jatin Dadhyan	Ongoing

### 6. Resources Required:

Resources	Description	Estimated Cost
Excel Sheet	Dataset provided by Go Auto team	No External Cost
Machine Learning Libraries	Python libraries for model development	No External Cost
Power BI or Looker Studio	Visualization software	No External



### 7. Risk Management Plan:

Identify potential risks and strategies to mitigate them. See the table below for reference. Generate a similar table with the header mentioned below and complete Risk Management Plan.

Risk	Likelihood	Impact	Mitigation Strategy
Data quality issues	Medium	High	Thorough data cleaning and validation
Model performance below expectations	Medium	High	Iterative model improvement and feature engineering
Time constraints	Low	Medium	Regular progress checks and task prioritization

### 8. Budget:

No External Cost