UNIVERSITY OF NORTH CAROLINA CHARLOTTE

Company Logo

Name: Intern name

Date: 01/31/2023

Project Title: Building a model of customer behavior to predict retention outcomes

Mentor and Company: Mentor Name, Company

Dates of Internship: 01/23/2023 – 05/02/2023

Project Objective

The objective has not been changed from the proposal yet. But some circumstances during the work may lead to tweaks in the objectives.

Methodology

The major approaches that would be taken to achieve the outcome of the project are:

- Work on small projects to understand the business and data using Snowflake and Microsoft Excel.
- Identify potential business areas that could be optimized using a Machine Learning (ML) process and present them to the stakeholders for permission to proceed with the proof of concept.
- Gathering of necessary data from company's Snowflake based Data Warehouse, and other external sources.
- Application of predictive analytics to implement a solution and present it to the stakeholders for feedback.

Major Tasks

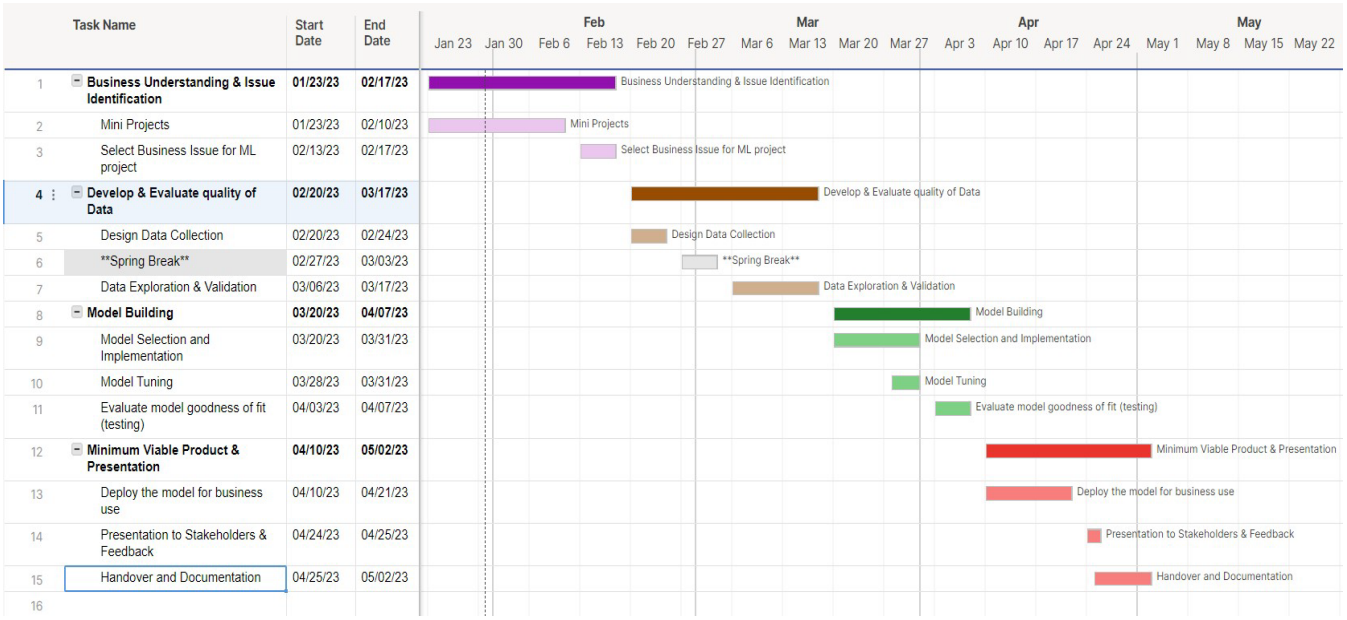
Task 1. Business Understanding & Issue Identification, 1/23/2023 - 2/17/2023
- Task 1.1. Mini Projects, 1/23/2023 - 2/10/2023
- Task 1.2. Select Business Issue for ML project, 2/13/2023 - 2/17/2023

Task 2. Develop & Evaluate quality of Data, 2/20/2023 - 3/17/2023
- Task 2.1. Design Data Collection, 2/20/2023 - 2/24/2023
- Task 2.2. Data Exploration & Validation, 3/6/2023 - 3/17/2023

Task 3. Model Building, 3/20/2023 - 4/7/2023
- Task 3.1. Model Selection and Implementation, 3/20/2023 - 3/31/2023
- Task 3.2. Model Tuning, 3/28/2023 - 3/31/2023
- Task 3.3. Evaluate model goodness of fit (testing), 4/3/2023 - 4/7/2023

Task 4. Minimum Viable Product & Presentation, 4/10/2023 - 5/2/2023
- Task 4.1. Deploy the model for business use, 4/10/2023 - 4/21/2023
- Task 4.2. Presentation to Stakeholders & Feedback, 4/24/2023 - 4/25/2023
- Task 4.3. Handover and Documentation, 4/25/2023 - 5/2/2023

Gantt Chart



	Task Name	Start Date	End Date
1	**Business Understanding & Issue Identification**	01/23/23	02/17/23
2	Mini Projects	01/23/23	02/10/23
3	Select Business Issue for ML project	02/13/23	02/17/23
4	**Develop & Evaluate quality of Data**	02/20/23	03/17/23
5	Design Data Collection	02/20/23	02/24/23
6	**Spring Break**	02/27/23	03/03/23
7	Data Exploration & Validation	03/06/23	03/17/23
8	**Model Building**	03/20/23	04/07/23
9	Model Selection and Implementation	03/20/23	03/31/23
10	Model Tuning	03/28/23	03/31/23
11	Evaluate model goodness of fit (testing)	04/03/23	04/07/23
12	**Minimum Viable Product & Presentation**	04/10/23	05/02/23
13	Deploy the model for business use	04/10/23	04/21/23
14	Presentation to Stakeholders & Feedback	04/24/23	04/25/23
15	Handover and Documentation	04/25/23	05/02/23
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Expected Outcomes

Reduce the loss of company's investment in any form (resources and revenue).

Potential Risks and Strategies to Overcome

Risks

a. The data available might not be sufficient in finding the relationship required to solve the problem. So, applying ML techniques might not help in improving the business.
b. There might be infrastructure constraints that could prevent the application of complex ML algorithms.
c. The project scope/problem might be too broad or difficult to solve.
d. Business stakeholders might suggest a major overhaul for the project at a later point.

Strategies to Overcome

a. Understand/develop feature engineered fields to aid ML algorithms to identify hidden patterns on which further appropriate steps could be taken.
b. Understand the extent to which classic ML algorithms could support the business and identify the required infrastructure for the complex ones.
c. Identify an achievable milestone out of the bigger one and aim to solve for that instead.
d. Discuss the time & priority and try to explain how working on the current one could be beneficial as well.