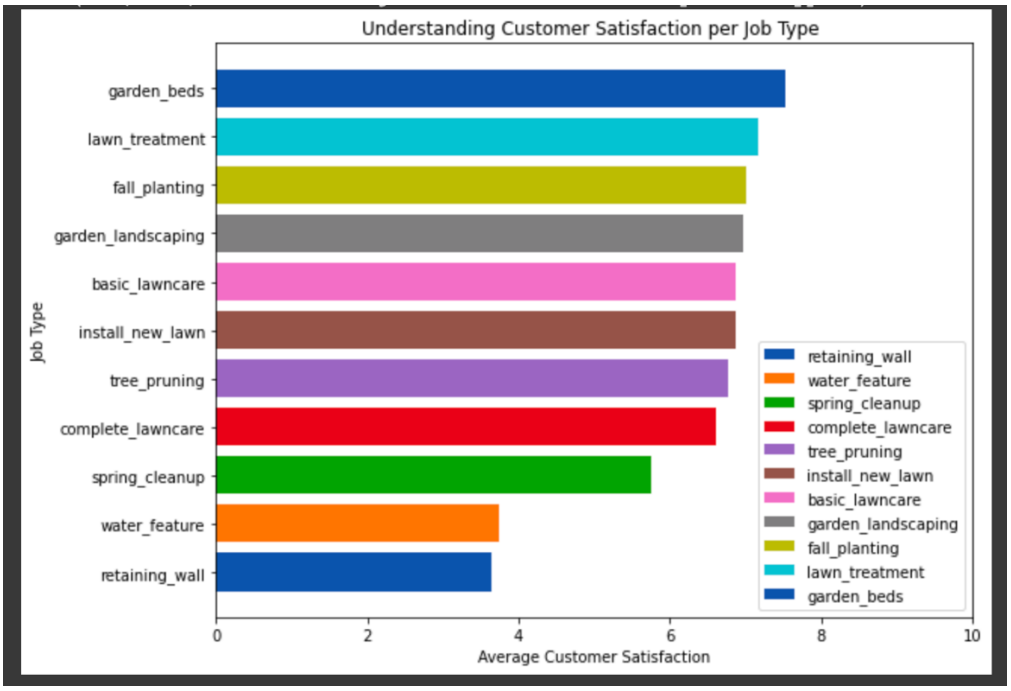
PROJECT CHECKPOINT

Name - Priyanka Maru (202091536)

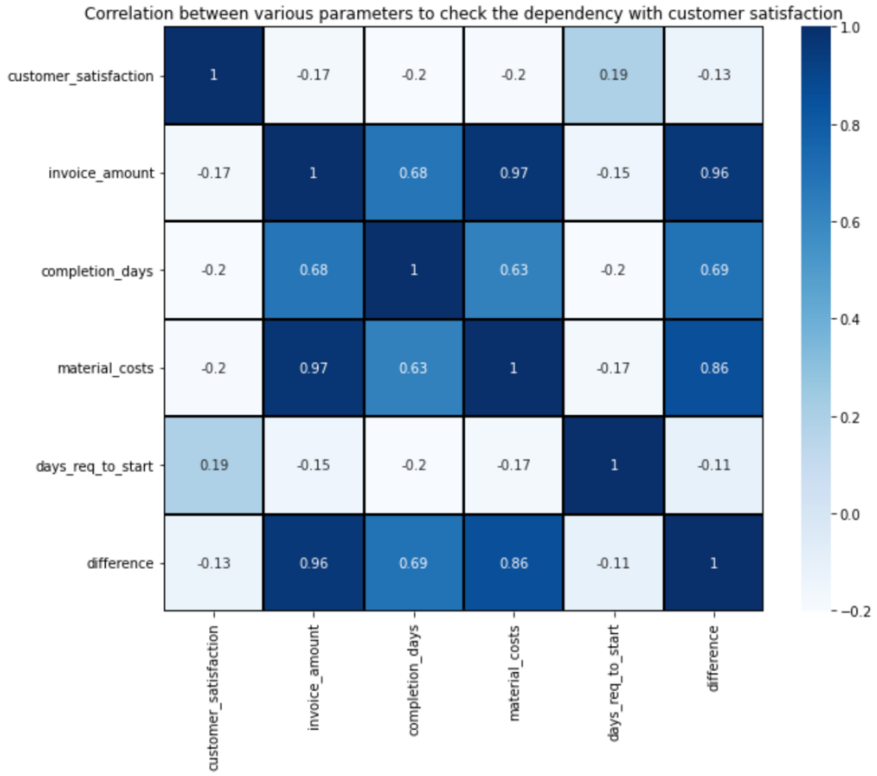
Main goal - How can the company be improved?

Subgoal 1 - **Promoting the jobs which are more profitable**. -Net Profit for each job = Invoice amount - material costs - wages of the employee for that job (considering the employee has worked for 4 hours in a day)

Subgoal 2 - **Improvement of the customer satisfaction**.



Explanatory Final Visualization:
The above visualization helps us understand the average customer satisfaction for each job type. If the Customer is highly satisfied as seen in case of garden beds job orelse is not satisfied as seen in retaining wall job. We could have an idea as to which jobs to focus on and needs more improvement.



Exploratory Visualization:

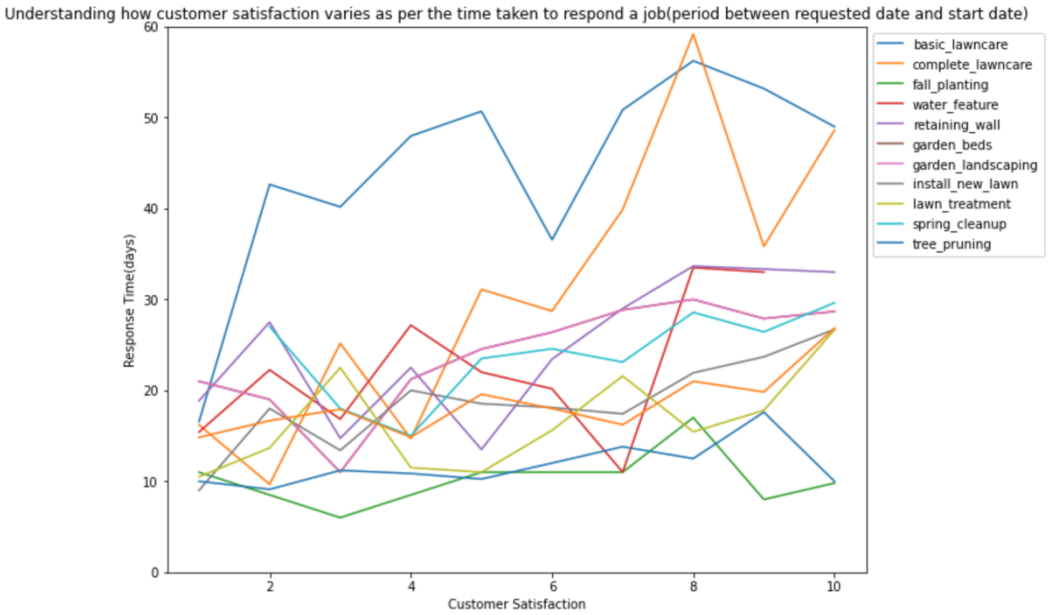
The above Visualization shows the correlation between different parameters which will help us analyse if any feature is corelated to customer satisfaction feature, so that the customer satisfaction can be improved. The correlation between the features will help us understand and evaluate on which feature is customer_satisfaction feature related. As seen from the visualization, days_req_to_start is related to customer satisfaction with a correlation of 0.19, which is not very closely related but still related to the customer satisfaction feature.

The new derived features are:

completion_days: period between the start date and completion date in days.

days_req_to_start: period between the request date and completion date in days.

difference:difference between invoice_amount and material_costs

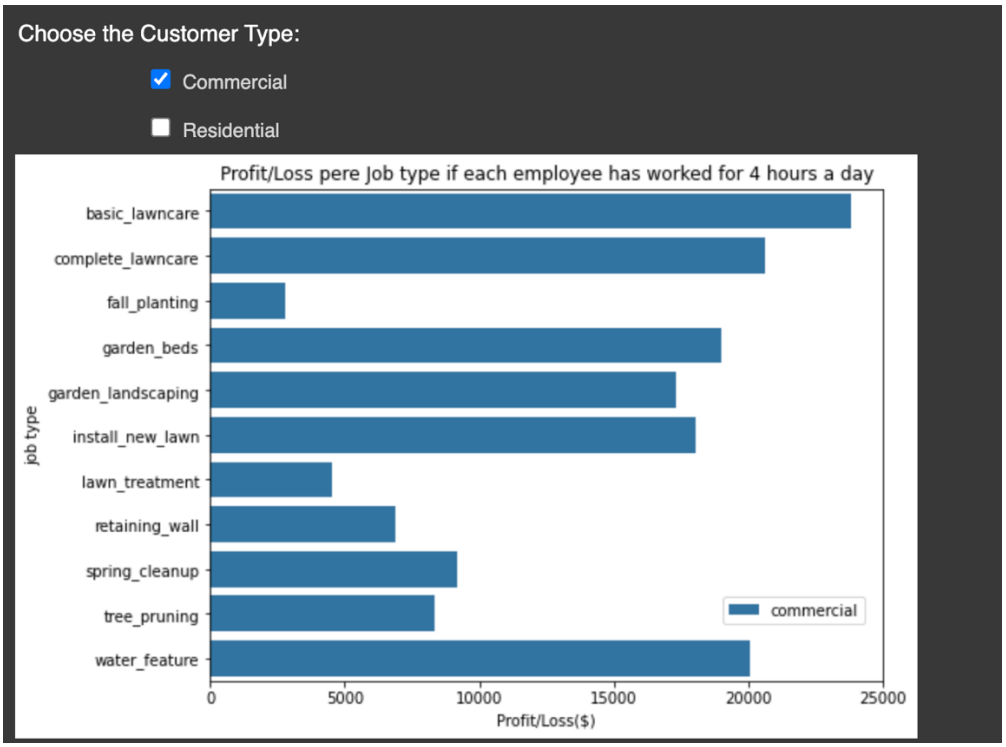


Explanatory Visualization:

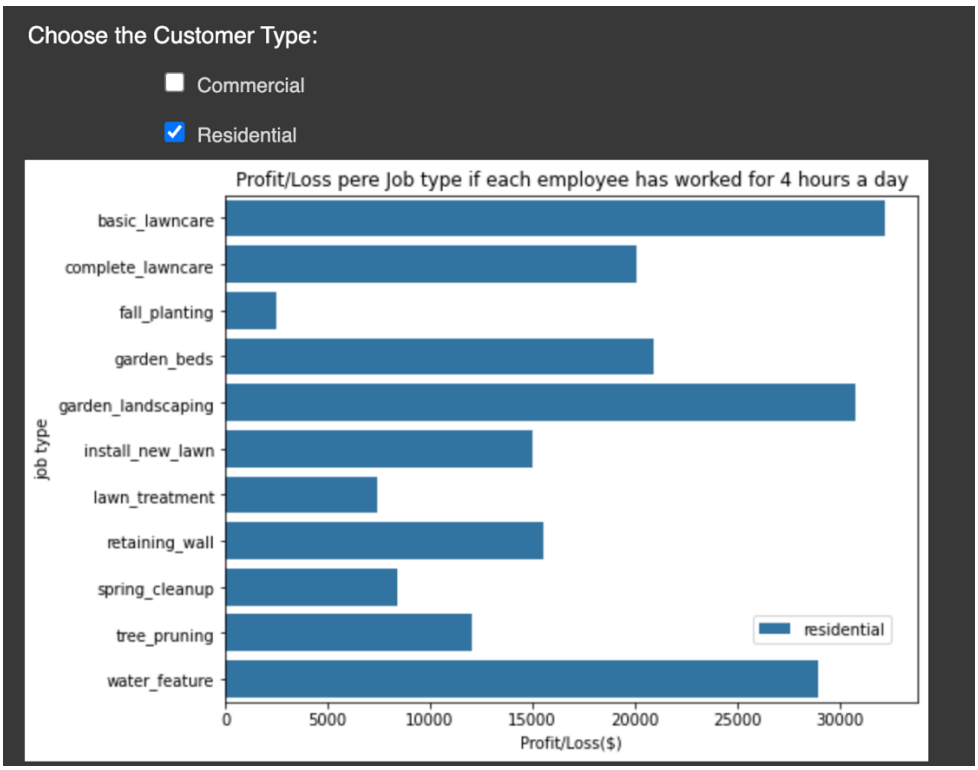
The above data visualization is to understand the relation between customer_satisfaction and days_req_to_start features, as the days_req_to_start feature is seen to be correlated to customer_satisfaction feature. The understanding of this relation which help us get an idea if response time is the reason for lower or higher customer satisfaction for jobs. As seen, most of the job requests are answered between 10 days to 30 days have quite high customer satisfaction rate from 6 to 9(approximately).

Interactive Visualization: This visualization is a bar plot of Profit per job. It helps us understand which jobs are more profitable so that we promote those jobs and improve the company. The visualization consists of filtering the bar plot as per the chosen customer type. If "Commercial" is selected, the plot will display the profit per job_type only for Commercial customer_type and if "Residential" is selected, the plot will display the profit per job type only for Residential customer_type and if "Commercial" and "Residential" both are selected, the grouped bar plot will display the profit per job type for both Commercial and Residential customer_type.

Assumption: For calculating the wages of the employee, it is considered that the employee has worked for 4 hours each calendar day on a job.



The above visualization shows the profit per job_type for Commercial customer_type. As seen, basic lawncare job_type has the maximum profit of $24000 (approximately) amongst all the job_types for commercial customers.



The above visualization shows the profit per job_type for Residential customer_type. As seen, basic_lawncare job has the most profit of $32000 (approximately) amongst all the other jobs incase of Residential Customers.

The above visualization shows the profit per job_type for Commercial and Residential customer_type. As seen, basic_lawncare job has the most profit of $24000 and $32000 (approximately) amongst all the other jobs incase of Residential and Commercial Customers respectively. So, By looking at the plot,we can promote basic_lawncare, water_feature, garden_beds and complete_lawncare jobs as they are the most profitable amongst all other job_types in both Residential and Commercial customers.