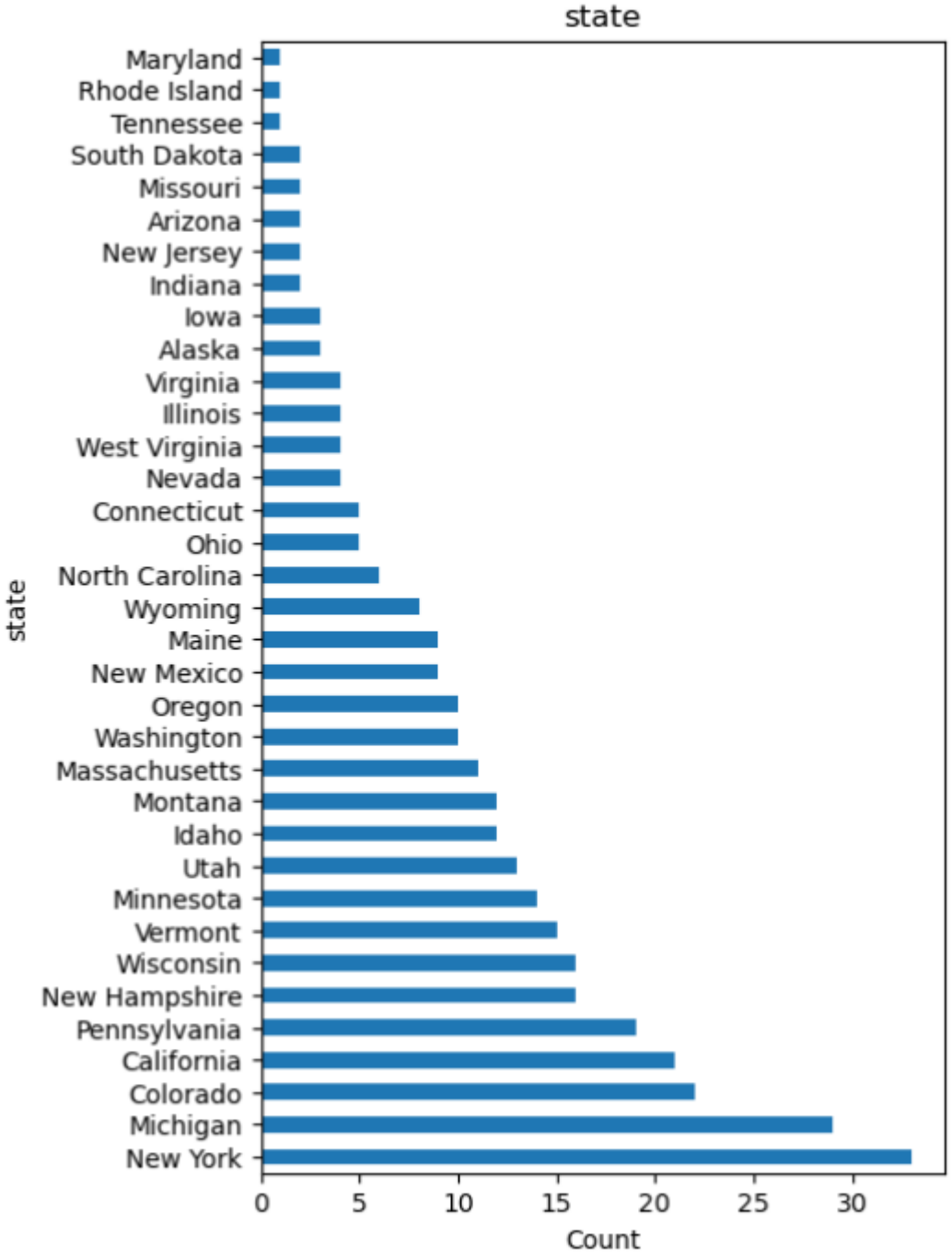
By refining the ticket pricing strategy and identifying operational efficiencies at Big Mountain Resort, we aim to achieve a minimum of a 10% improvement in revenue or cost efficiency within the next six months.Big Mountain Resort, nestled in Montana, faces challenges in optimizing its pricing strategy and operational efficiency. With breathtaking views of Glacier National Park and Flathead National Forest, the resort attracts around 350,000 skiers and snowboarders annually to its 105 trails serviced by 11 lifts, 2 T-bars, and 1 magic carpet. The recent addition of a chair lift has increased operating costs by $1,540,000 this season. We focus is on implementing a more data-driven approach to enhance the resort's pricing strategy, boost revenue, and ensure financial sustainability in a competitive market.

The growth target is set at a minimum of 10% within the next six months. Operational changes should lead to a reduction in operating costs by at least 10% without compromising the quality of the visitor experience.The ski resort industry is highly competitive, and changes in pricing may impact the resort's competitiveness. External economic factors beyond the resort's control could impact the success of pricing adjustments. Upgrading systems or implementing new technologies could pose challenges and require additional resources.

Analyzing and refining the ticket pricing strategy to accurately reflect the value of facilities.

Recommending changes to enhance operational efficiency without compromising the overall visitor experience. Leveraging historical ticket sales data, facility utilization metrics, and cost breakdowns for informed decision-making. In this project the stakeholders are director of Operations, Jimmy Blackburn, and he has connected

you with Alesha Eisen, the Database Manager.



Looking at the distribution of States, it is seen New York accounting for the majority of resorts.

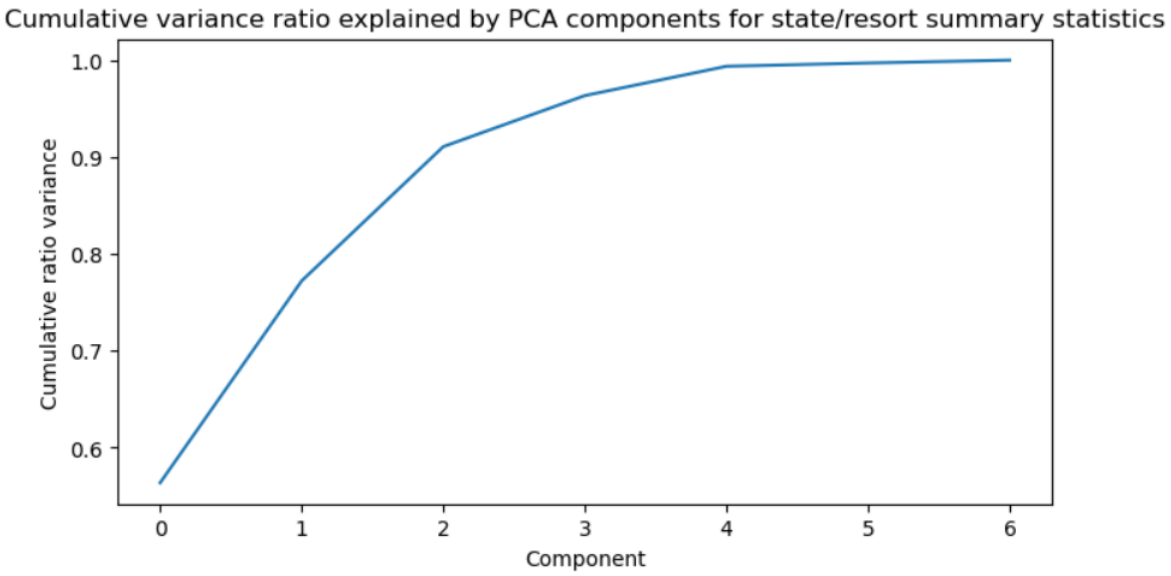
In the data wrangling part we prepare our data. Some part of the data are missing. We fill this places properly. In the exploratory data analysis part, we arrange our data. In other ways, we scaled all the data because machine leaning algorithm is tend to make mistake with unscaled data. In the preprocessing place we trained our machine with %70 data. %30 of the data was used for testing. We use some metrics in this sections such as R-squared, or coefficient of determination, Mean Absolute Error and Mean Squared Error etc.

R-squared, or coefficient of determination: One measure is R^2. This is a measure of the proportion of variance in the dependent variable (our ticket price) that is predicted by our "model".
Mean Absolute Error: This is very simply the average of the absolute errors

Mean Squared Error: This is simply the average of the square of the errors
The modeled price for Big Mountain Resort is $95.87,while the actual price is $81.00. Stating definitively that increasing the price to this level will not decrease our customer count and will increase our profit margin is challenging. It is not easy to assert that the modeled price is an optimized one, given the current circumstances. However, it should be noted that we lack information on operating costs.

As a result, it is crucial to first feed artificial intelligence with big data, and we must remember that our model's prediction is based on the data available. Considering the absence of operating cost data, we need to be cautious in our assessment.

In conclusion, I believe that implementing this price change will yield positive results for our business. The necessary analyses have been conducted, and this price has been determined. I think it is essential for our company to update the current price based on the predicted value. If the higher price is well-received, and our profit margins start to decline, in such a scenario, the company can consider using discount strategies to adjust the price.
It would have been beneficial for our study to have operating cost data. We stated that the ticket price for Big Mountain should increase based on this study conducted across the USA. However, when we look at our study regionally rather than nationally, the expected price might be slightly higher. The business can leverage this model as follows: the results of this model alone are not sufficient. Various techniques should be employed to address these results in the market context. While this model assists in the company's pricing process, it is not adequate on its own.



The first two components seem to account for over 75% of the variance, and the first four for over 95%.