



Footfall Forecasting in Theme Parks

Overview

Red Buffer has developed a system that uses hourly footfall prediction models based on a customized version of the Facebook Prophet and LSTMs to accurately predict the footfall in trampoline parks. The system uses inputs from historic footfall for each location associated with the chain as well as third-party information such as weather, movie release dates, and local holiday schedules to optimize personnel costs and enhance profitability.

CUSTOMER

Country: USA

Industry: Entertainment

Customer Size: 10000+

Publish Date:

Problem Statement

A US-based chain of trampoline parks had a challenge in optimizing personnel costs since the number of visitors to these parks varies greatly throughout the day and across the year. It is a challenge to run a profitable business if staffed fully at all times. The increase in wages put further pressure on the profitability of the business. Being able to predict the footfall in these theme parks accurately would allow for deploying optimal personnel at the right time and day.

Technical Solution

Red Buffer developed hourly footfall prediction models based on a customized version of the Facebook Prophet and LSTMs. These models use inputs from historic footfall for each location associated with the chain as well as third-party information such as weather, movie release dates, and local holiday schedules to accurately predict the hourly footfall. The models were trained using Python programming language. With this system in place, the businesses are able to streamline their personnel requirements to reduce costs and enhance profitability not only from the customer footfall as well as the inventory required for food sales at the park.

Results

The system developed by Red Buffer has allowed the trampoline parks to optimize personnel costs and enhance profitability by accurately predicting the footfall in these theme parks. The hourly footfall prediction models have been customized using Facebook Prophet and LSTMs, and they use inputs from historic footfall for each location associated with the chain as well as third-party information such as weather, movie release dates, and local holiday schedules to accurately predict the hourly footfall. The system has also created an opportunity for another revenue stream through licensing of the software to other businesses. Overall, this system has the potential to revolutionize the way trampoline parks and other businesses in the entertainment industry manage their personnel costs and enhance profitability.

Technologies	Domain
Python, Facebook Prophet Model, LSTMs	NLP