

OPTIMIZING GYM UTILIZATION AT GOODLIFE

| *Enhancing Client Satisfaction and
Profits through Data-Driven Insights*

PROBLEM 1 - OPTIMIZING GROUP FITNESS CLASS UTILIZATION

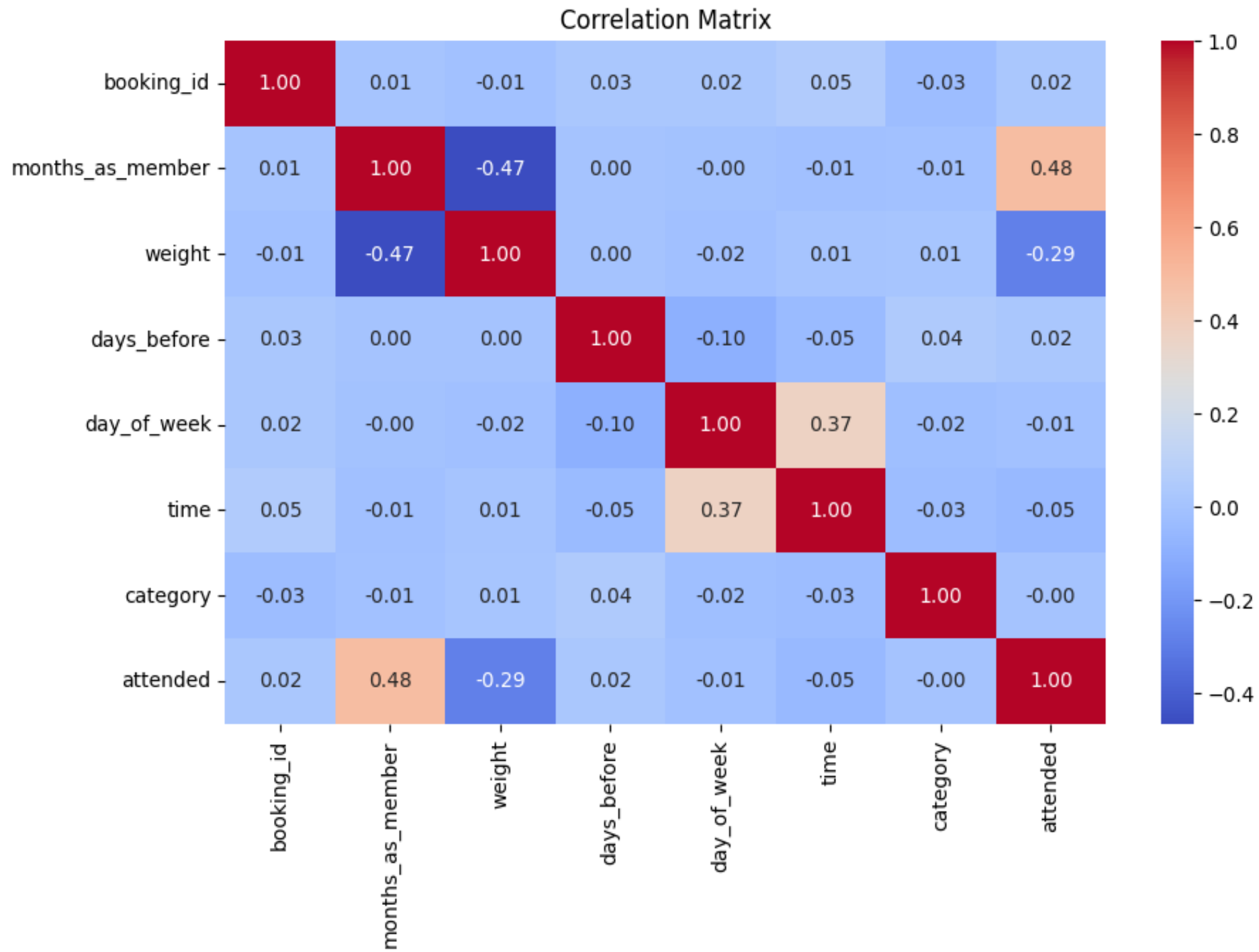
Problem Statement:

- Predict class attendance to optimize the number of spaces available.
- Address the issue of fully booked classes with low attendance rates.

Dataset Overview:

- Booking data including member details and class information.





MODEL EVALUATION FOR PROBLEM 1

Models	Accuracy
Random Forrest Classifier	75%
Gradient Boosting Classifier	75%
Extreme Gradient Boosting Classifier	76%
Logistic Regression	77%
Stacked (Random Forest & XGB) Classifier	76%

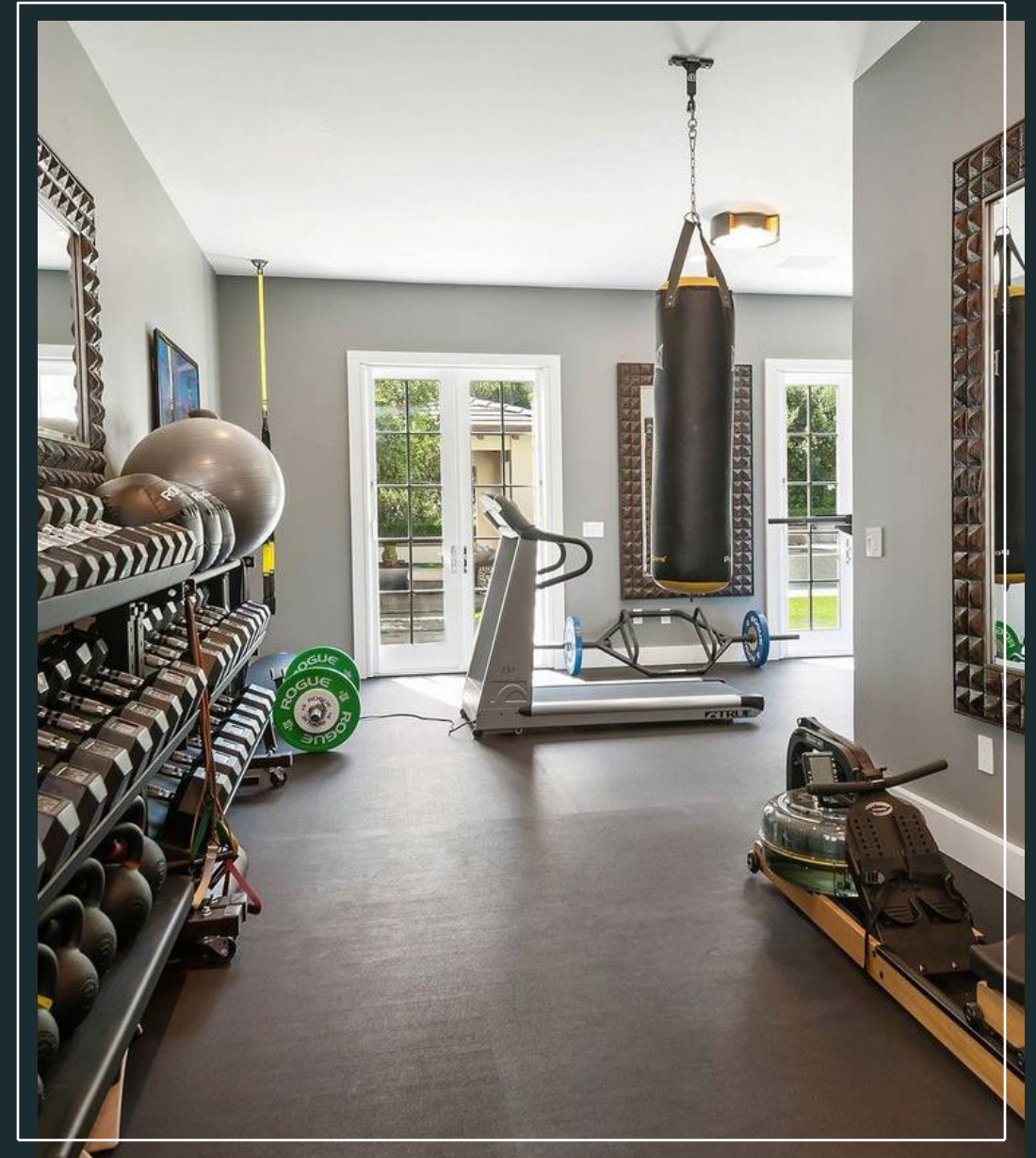
PROBLEM 2 - OPTIMIZING GYM EQUIPMENT UTILIZATION

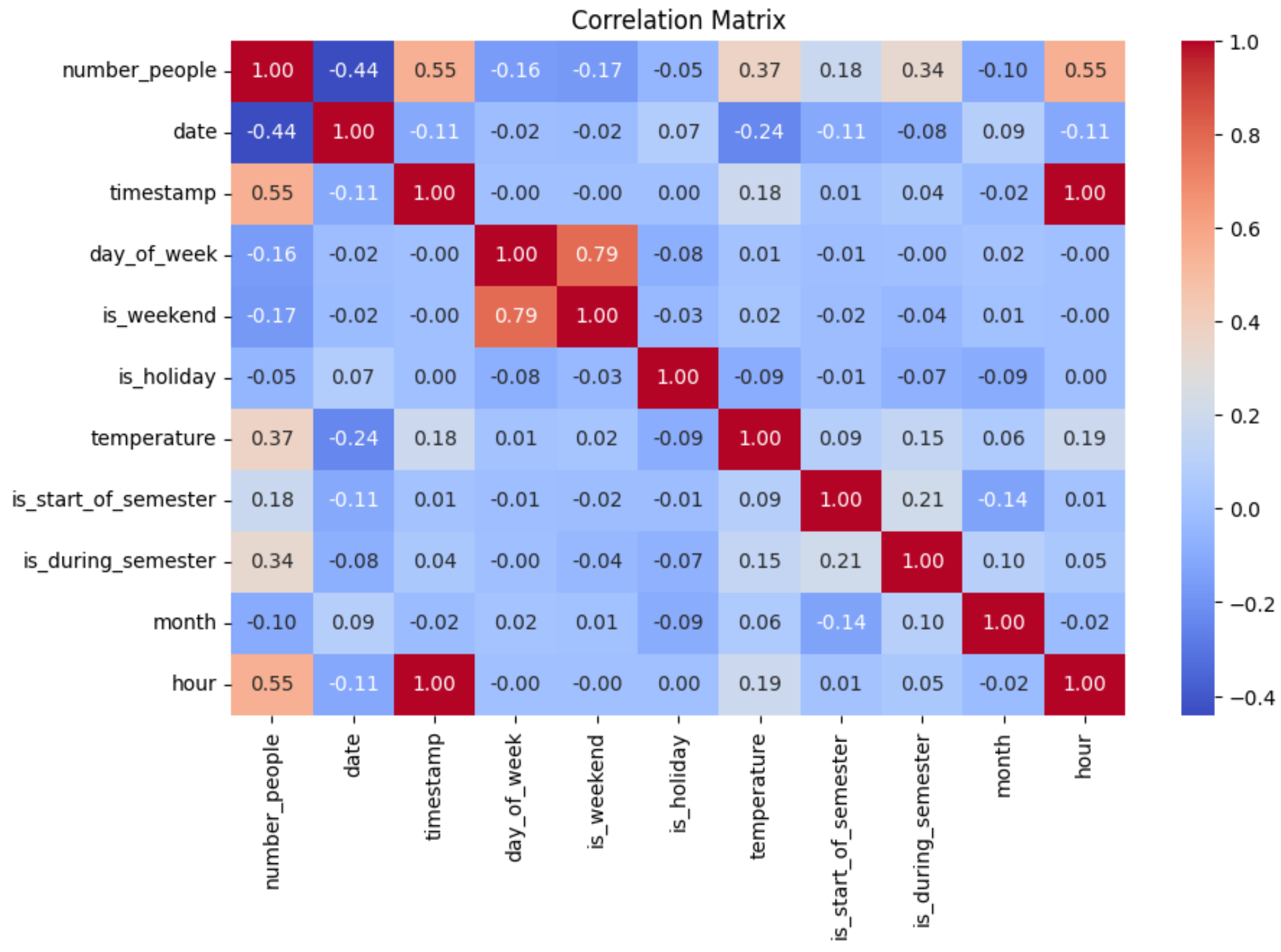
Problem Statement:

- Predict gym crowding levels to manage equipment utilization.
- Provide actionable insights to distribute gym traffic evenly throughout the day.

Dataset Overview:

- Gym usage data including timestamps, weather, and other contextual factors.





MODEL EVALUATION FOR PROBLEM 2

Models	MSE
Random Forrest Regressor	120.05
Gradient Boosting Regressor	113.39
Linear Regression	250.37
K-Nearest Neighbors Regressor	170.39

BUSINESS DECISIONS

- **Class Capacity Adjustment:** Utilize the attendance prediction model to dynamically adjust class capacities, ensuring that more members can participate while minimizing underutilization.
- **Gym Traffic Management:** Implement predictive insights to manage gym crowding, guiding members to visit during less crowded times, thereby improving their experience.



MARKETING STRATEGIES



Targeted Member Engagement: Use the predictions to send personalized reminders or incentives to members who are likely to miss their classes, increasing attendance rates.



Promotional Campaigns: Launch promotions during predicted off-peak hours to attract more members during times of lower gym usage, balancing traffic throughout the day.



Feedback Loop: Integrate model predictions into GoodLife's mobile app to provide real-time updates on class availability and gym crowding, enhancing member engagement and satisfaction.



THANK YOU
