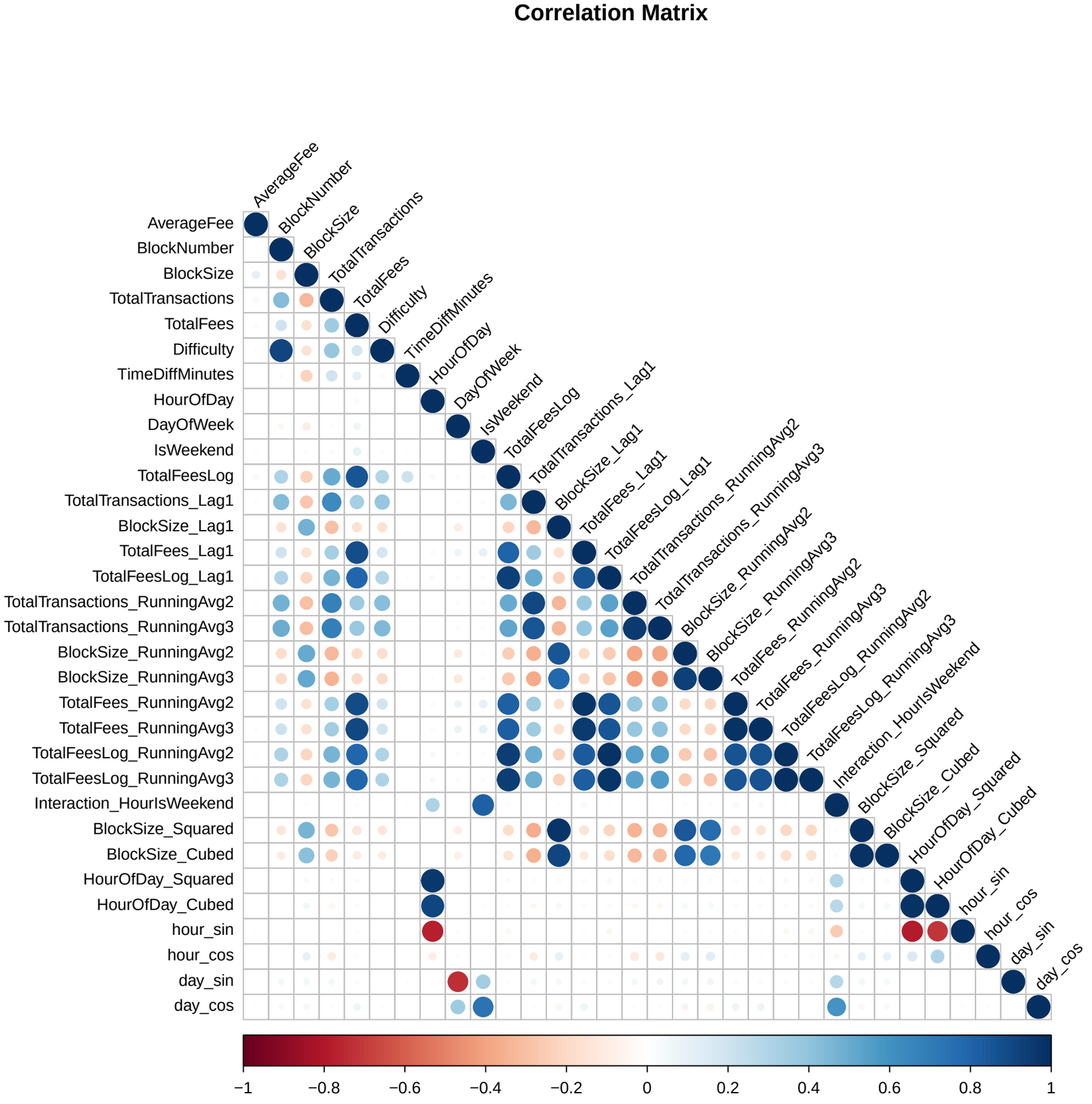
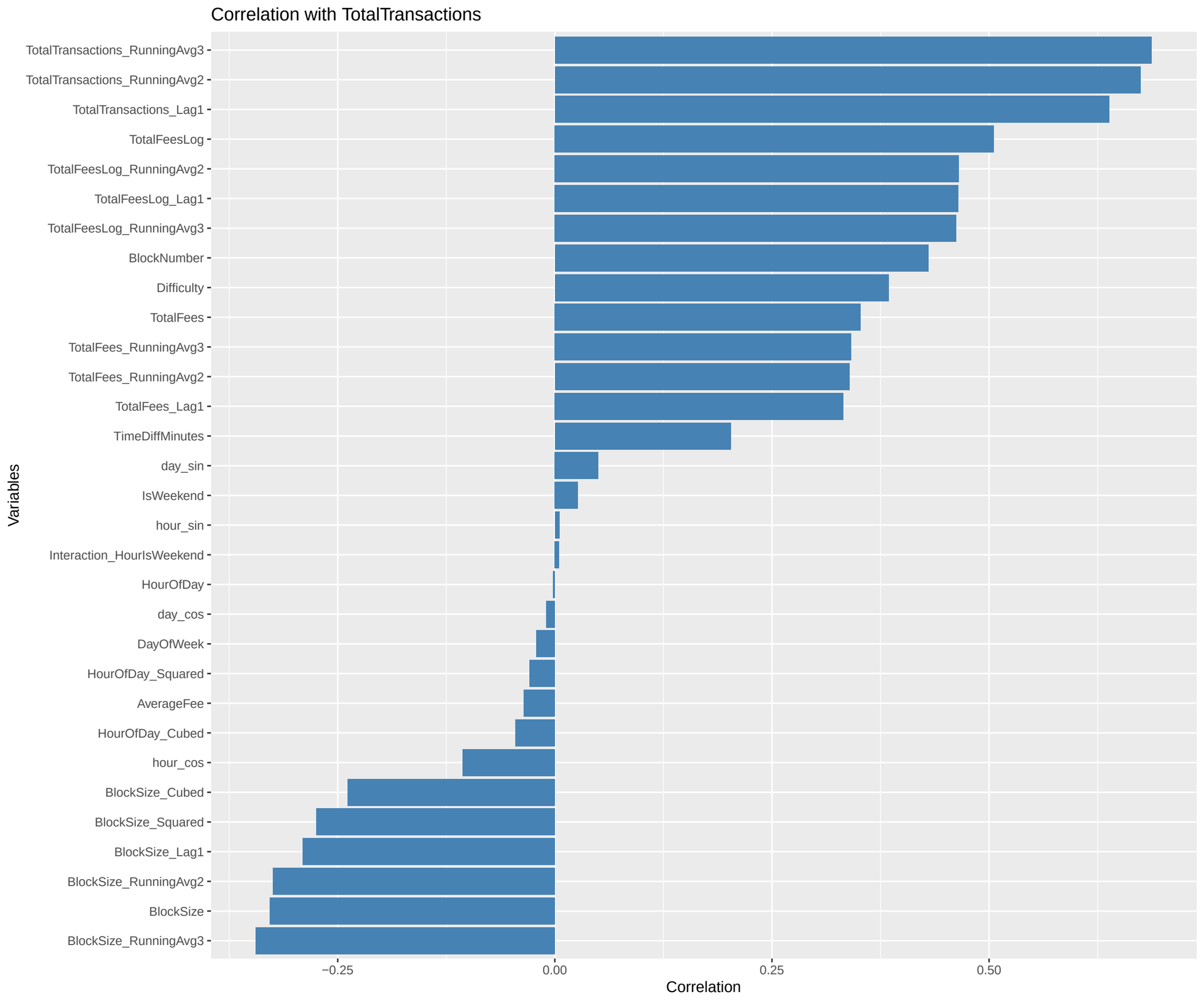

Correlation Matrix
AverageFee
BlockNumber
BlockSize
TotalTransactions
TotalFees
Difficulty
TimeDiffMinutes
HourOfDay
DayOfWeek
IsWeekend
TotalFeesLog
TotalTransactions_Lag1
BlockSize_Lag1
TotalFees_Lag1
TotalFeesLog_Lag1
TotalTransactions_RunningAvg2
TotalTransactions_RunningAvg3
BlockSize_RunningAvg2
BlockSize_RunningAvg3
TotalFees_RunningAvg2
TotalFees_RunningAvg3
TotalFeesLog_RunningAvg2
TotalFeesLog_RunningAvg3
Interaction_HourIsWeekend
BlockSize_Squared
BlockSize_Cubed
HourOfDay_Squared
HourOfDay_Cubed
hour_sin
hour_cos
day_sin
day_cos
−1
−0.8
−0.6
−0.4
−0.2
0
0.2
0.4
0.6
0.8
1


Correlation with TotalTransactions
TotalTransactions_RunningAvg3
TotalTransactions_RunningAvg2
TotalTransactions_Lag1
TotalFeesLog
TotalFeesLog_RunningAvg2
TotalFeesLog_Lag1
TotalFeesLog_RunningAvg3
BlockNumber
Difficulty
TotalFees
TotalFees_RunningAvg3
TotalFees_RunningAvg2
TotalFees_Lag1
TimeDiffMinutes
day_sin
IsWeekend
hour_sin
Interaction_HourIsWeekend
HourOfDay
day_cos
DayOfWeek
HourOfDay_Squared
AverageFee
HourOfDay_Cubed
hour_cos
BlockSize_Cubed
BlockSize_Squared
BlockSize_Lag1
BlockSize_RunningAvg2
BlockSize
BlockSize_RunningAvg3
Variables
−0.25
0.00
0.25
0.50
Correlation

# PCA Summary

Importance of components:

| | PC1 | PC2 | PC3 | PC4 | PC5 | PC6 | PC7 |
|---|---|---|---|---|---|---|---|
| Standard deviation | 3.1006 | 2.0770 | 1.9287 | 1.58350 | 1.54619 | 1.31495 | 1.10778 |
| Proportion of Variance | 0.3004 | 0.1348 | 0.1162 | 0.07836 | 0.07471 | 0.05403 | 0.03835 |
| Cumulative Proportion | 0.3004 | 0.4352 | 0.5515 | 0.62983 | 0.70454 | 0.75858 | 0.79693 |

| | PC8 | PC9 | PC10 | PC11 | PC12 | PC13 | PC14 |
|---|---|---|---|---|---|---|---|
| Standard deviation | 1.09083 | 1.00428 | 0.98486 | 0.77337 | 0.64763 | 0.62841 | 0.61310 |
| Proportion of Variance | 0.03718 | 0.03152 | 0.03031 | 0.01869 | 0.01311 | 0.01234 | 0.01175 |
| Cumulative Proportion | 0.83411 | 0.86563 | 0.89594 | 0.91463 | 0.92774 | 0.94008 | 0.95183 |

| | PC15 | PC16 | PC17 | PC18 | PC19 | PC20 | PC21 |
|---|---|---|---|---|---|---|---|
| Standard deviation | 0.57053 | 0.53316 | 0.42962 | 0.38958 | 0.37723 | 0.32703 | 0.2830 |
| Proportion of Variance | 0.01017 | 0.00888 | 0.00577 | 0.00474 | 0.00445 | 0.00334 | 0.0025 |
| Cumulative Proportion | 0.96200 | 0.97088 | 0.97665 | 0.98139 | 0.98584 | 0.98918 | 0.9917 |

| | PC22 | PC23 | PC24 | PC25 | PC26 | PC27 | PC28 |
|---|---|---|---|---|---|---|---|
| Standard deviation | 0.26903 | 0.24149 | 0.23050 | 0.18193 | 0.13932 | 0.10590 | 0.09701 |
| Proportion of Variance | 0.00226 | 0.00182 | 0.00166 | 0.00103 | 0.00061 | 0.00035 | 0.00029 |
| Cumulative Proportion | 0.99395 | 0.99577 | 0.99743 | 0.99846 | 0.99907 | 0.99942 | 0.99971 |

| | PC29 | PC30 | PC31 | PC32 |
|---|---|---|---|---|
| Standard deviation | 0.07505 | 0.04353 | 0.03961 | 0.00528 |
| Proportion of Variance | 0.00018 | 0.00006 | 0.00005 | 0.00000 |
| Cumulative Proportion | 0.99989 | 0.99995 | 1.00000 | 1.00000 |

# Decision Suggestions

### Decision Suggestions based on Correlation Analysis

1. **Features with High Correlation**:
Consider using the following features in your model as they show a significant correlation with the target variable:
- TotalTransactions_RunningAvg3
- TotalTransactions_RunningAvg2
- TotalTransactions_Lag1
- TotalFeesLog
- TotalFeesLog_RunningAvg2
- TotalFeesLog_Lag1
- TotalFeesLog_RunningAvg3
- BlockNumber
- Difficulty
- TotalFees
- TotalFees_RunningAvg3
- TotalFees_RunningAvg2
- TotalFees_Lag1
- BlockSize_RunningAvg2
- BlockSize
- BlockSize_RunningAvg3

2. **Features with Moderate Correlation**:
Consider using the following features with caution, as they show moderate correlation with the target variable:
- TimeDiffMinutes
- hour_cos
- BlockSize_Cubed
- BlockSize_Squared
- BlockSize_Lag1

### Decision Suggestions based on PCA Analysis

3. **Principal Components**:
Consider the principal components that explain the majority of the variance. Use these components to reduce dimensionality if needed.