

Optimizing Parking Revenue & Operations with AIML



The Customer

An operator of a large, sensor-equipped smart-parking facility needing accurate demand forecasts across multiple horizons, intelligent monitoring to detect anomalies, and analytics to reveal behaviors (e.g., frequent entries/exits, long-term parking) that affect operations and revenue.

The Challenge

Deliver reliable forecasts and protect revenue by:

- Predicting space occupation hourly/daily/weekly/monthly (including peak/off-peak).
- Detecting anomalies and patterns that signal leakage or policy abuse.
- Unifying sensor, video, and business data for complete operational context.

The Solution

A unified AI/ML platform for real-time, multi-source analytics:

- Parking sensor data: Real-time occupancy and vehicle detection.
- CCTV video & images: Visual verification and image analytics for monitoring.
- Business-app data: Holistic view of operations and financial transactions.
- Advanced data science: Demand forecasting, intelligent monitoring, and outlier/fraud detection.

The Results

The solution improved forecasting accuracy and revenue protection:

- Predictive occupancy: Accurate hourly/daily/weekly/monthly forecasts, including peak/off-peak.
- Outlier detection: Frequent entries/exits and long-term parking behaviors flagged.
- Revenue protection: Fraud/leakage indicators surfaced for action.
- Operational efficiency: Better staffing, routing, enforcement, and bay utilization.

Impact Delivered

- Accurate occupancy forecasts
- Reduced revenue leakage
- Optimized operations

Solution Components

- AI/ML platform
- IoT parking sensors
- CCTV video/image analytics
- Stream-based real-time processing
- Business-app data integration
- Data-science models