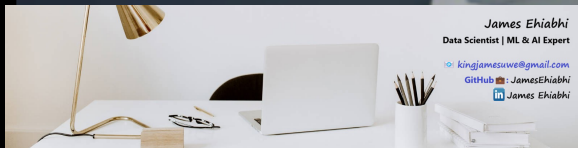# Case Study: SecurePark Solutions

ALPR cameras

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Background

➔ SecurePark Solutions is a pioneering company at the forefront of smart parking management systems.

➔ Established in 2015, SecurePark Solutions has grown rapidly, thanks to its commitment to leveraging cutting-edge technology to address the challenges faced by traditional parking systems.

➔ With a team of dedicated engineers, computer vision experts, and AI specialists, the company aims to create seamless and secure parking experiences for drivers and parking facility operators alike.

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Problem Statement

- Urbanization and the increasing number of vehicles have led to significant challenges in managing parking spaces efficiently.

- Traditional parking systems often suffer from issues such as unauthorized access, inefficient space utilization, long wait times for drivers, and security concerns.

- To address these challenges, a comprehensive smart parking system that leverages advanced computer vision and QR code technologies is needed.

- This system aims to automate the entry and exit processes, enhance security, and improve the overall user experience.

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Task

1. **Plate Number Detection and Extraction:**

   ○ Capture images of vehicles at entry and exit points.

   ○ Detect and extract plate numbers using computer vision techniques.

2. **QR Code Generation and Display:**

   ○ Generate QR codes containing the plate number and entry time.

   ○ Display the QR code for drivers to scan upon entry.

3. **QR Code Decoding and Verification:**

   ○ Decode the scanned QR codes at exit points.

   ○ Verify the plate numbers to ensure they match the ones in the QR codes.

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Dataset

SecurePark Solutions have provided you with some images of cars to build your first prototype.