

# Fast Food – Vehicle Number Plate Recognition

## 1. The Context

Number plate recognition can be used as a powerful marketing tool. Our client wanted to increase their drive through rate and app application uptake by customers

- By linking a customer's number plate to their past orders, our client would have the ability to serve up highly targeted and timely offers and deals via their mobile app push notification as the customer approaches one of their restaurants.

## 2. Our Challenge

RUBIX. was engaged to develop a solution that was able to identify and extract information from a registration plate via video in real time, correctly identify the customer and deliver promotions to the customer's app

- The approach consisted of three major parts:
  1. Extraction of plate region
  2. Segmentation of characters
  3. Recognition of plate characters.
- For extracting the plate region, edge detection algorithms and smearing algorithms were used.
- In segmentation, smearing algorithms, filtering and some morphological algorithms were used.
- Statistical based template matching were used for recognition of plate characters.

## 3. How we Triumphed

On time and on budget, the Client was able to deploy the final model to into their production environment at three selected restaurant locations

- We brought our experience in Data Science and productionising of Deep learning and Neural Network Models to enable the client to successfully
- Worked collaboratively with the marketing insights team to develop a gamification approach to their app to entice customers to utilize the app.
- The ability to incorporate cutting edge analytics techniques and business processes allowed for the ability to leverage customers past experiences.
- The solution was shown to increase the uptake of offers from the app for the three test sites by 22%, resulting in increased patronage.
- The solution attributed to an increase of 6% of drive through customers for the three sites.

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