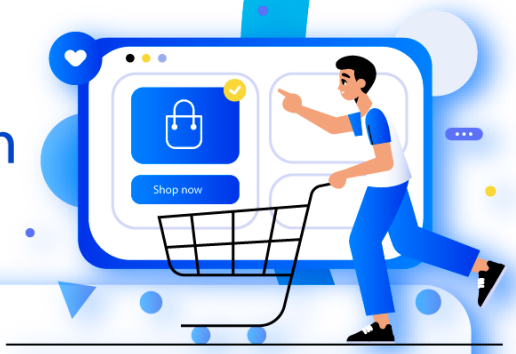
In-store Customer Analytics using Face Detection & Recognition



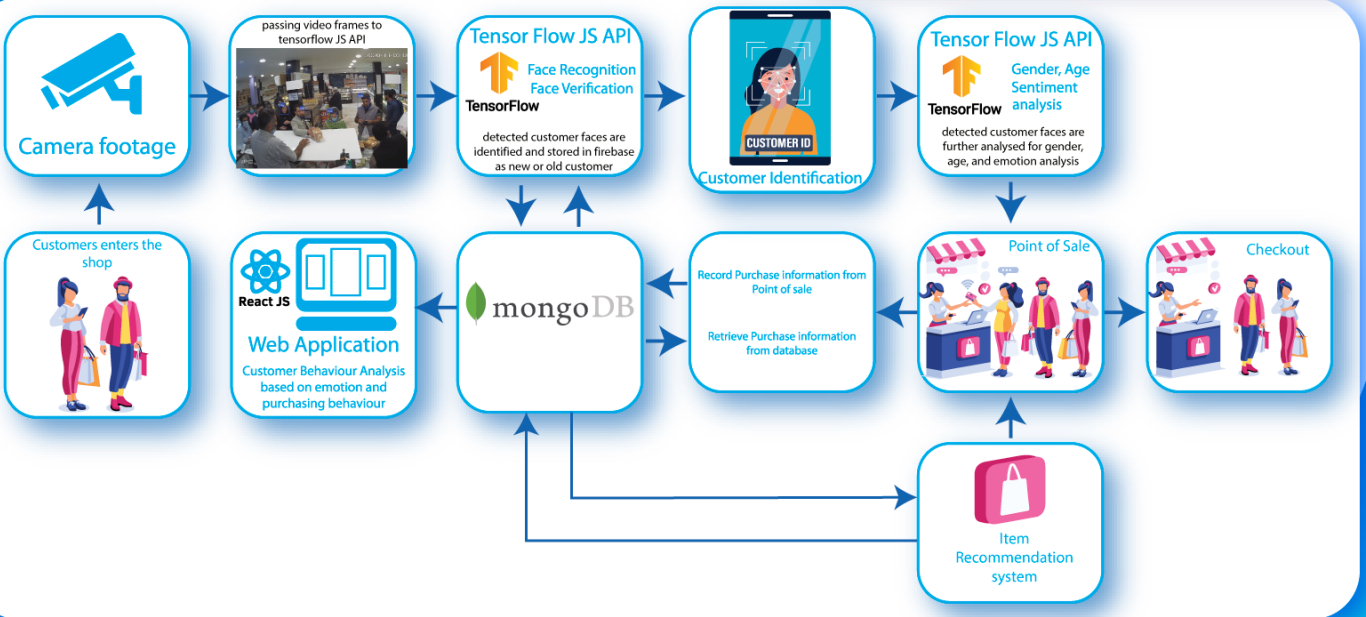
Abstract

We present an automated web-based approach to study and display customer behavior through in-store analytics. Our system combines face detection and recognition, best view estimation, repeat customer identification, and customer purchasing behavior analysis using an advanced react based POS dashboard.

Project Objectives

1) Analyzing in-store video footages to detect Customer faces
2) Extracting age, gender, and emotion for data analytics
3) Assigning unique ids to Customer Profiles
4) Storing Customer profiles to database
5) Creating a Point of Sale (POS) dashboard
6) Creating a Purchase recommendation system for customer
7) Displaying Customer Data Analytics

Methodology



Solution

Initially in-store camera footages are analyzed for customer faces. Customer face is detected and recognized using Tensorflow JS libraries. Customers are assigned unique IDs and their gender, age and sentimental features are extracted using Tensorflow JS libraries. Their purchase history is recorded in customers database using mongodb.

Conclusion

Our solution will help store owners know their customers better by providing relevant analytics and hence enhance business strategies best suiting customer needs; resulting in efficiency and profitability.

Tools: React JS, TensorFlow, Good Enough Recommendation (GER), mongoDB, node JS

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