



## PYCO22

1- Theme Picked- Fraud Prevention

2- Team composition details –

**Anupama:-** (Data Scientist)

**Ajith-** (Software Developer)

**Kailash:-** (Marketing and Data Visualization)

3- Brief Description of the Idea and Proposed Tech Solution

**Problem Statement:-**

To Build a AI System to predict and prevent the Fraudulent transactions which would benefit reducing risk of frauds.

## Application Architecture :-

### 1. Customer Journey

In the different stages of the customer's buying journey, it is important to understand the different touchpoints during which the Customer can be accessed as a Loyalist and adds to the revenue consistently.

Carat lane, being an Online Jeweller ecommerce app, will require various checks on the different stages of the customer online journey from awareness, engagement, conversion, retention. Hence, we explored the different areas which can be potential gaps that can encourage frauds:

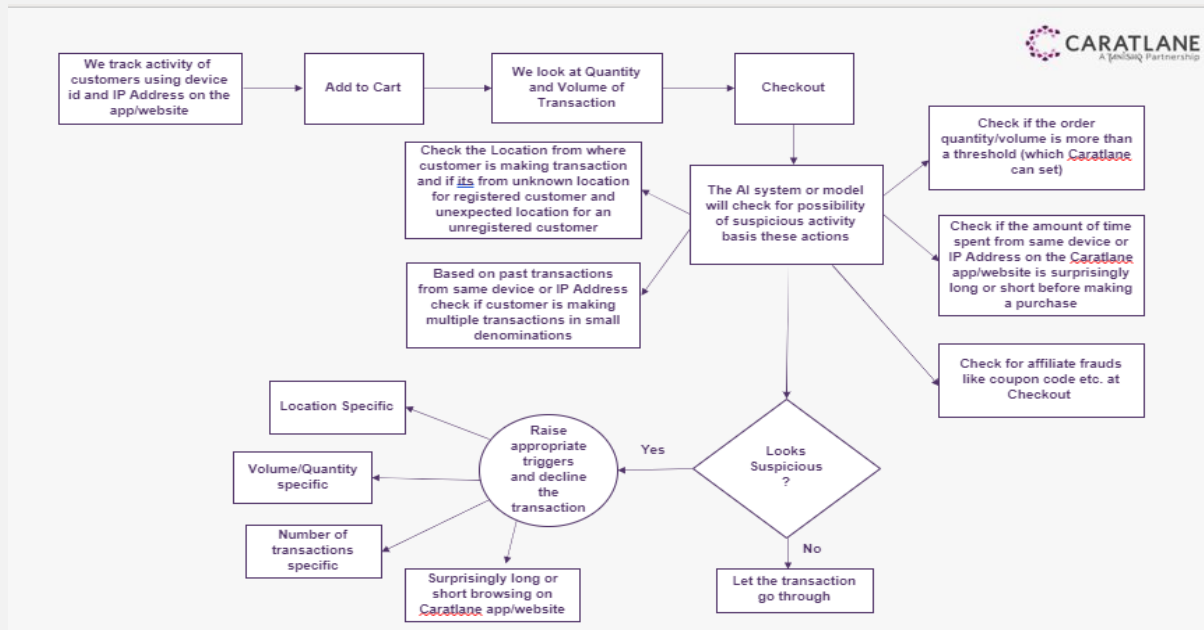
- **At the Awareness Stage**, where a non-logged in customer is informed by a social media, SEO, print, etc. Once the customer learns about the app, they search and visit the mobile app/ website. Here Typo-Squatting Error can take place, where mistakenly types the wrong website name and there is separate domain with the wrong/similar brand name and injected their affiliate cookie. As the user mistypes the brand name, the affiliate cookie is injected into the user browser and gets paid for the sales happening from the browser

- **At the Engagement Stage**: While the non-logged in customer is browsing the different products and while researching the different discounts or coupon offered from advertisements, that can lead to a Cookie Stuffing Affiliate Trap

- **At the Conversion Stage**:

- o Abnormal Transactions: There could be cases where a potential fraudulent customer makes abnormal transactions i.e. multiple transactions of smaller denominations in order to avoid the radar of high-volume order value.

- o Identity Theft: Phishing Attack on a logged in/registered customer trying to make transactions with registered email or phone number

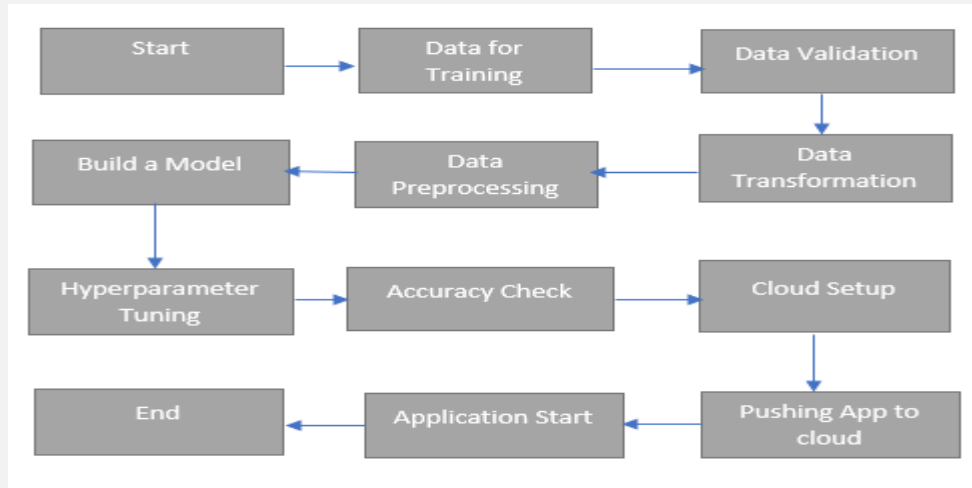


Basis the current Carat Lane App, we have identified the process flow of the customer journey on the app. Further, identified the touch points and gaps which can be filled to prevent frauds and protect customer interest. Steps like:

1. Extensive tracking customers (registered and unregistered both) activity on the app/website using device ID and IP Address, Mandatory sign in/ registration to complete purchase for New Customer and or to ensure proper returns of the actual product.
2. Social media analytics like clicks per impression, clicks, page views by similar IP address, understanding the average conversion time for logged in vs non-logged in customers and setting triggers accordingly,
3. Affiliate Tracking, Payment processing, Customer KYC details, etc. can be included using Machine Learning Algorithms basis which additional triggers and checks can be fostered.
4. Implementing Multi- factor Authentication, Address verification Services (AVS), Partnering with reliable third-party payment processors are important ways at the payment staged

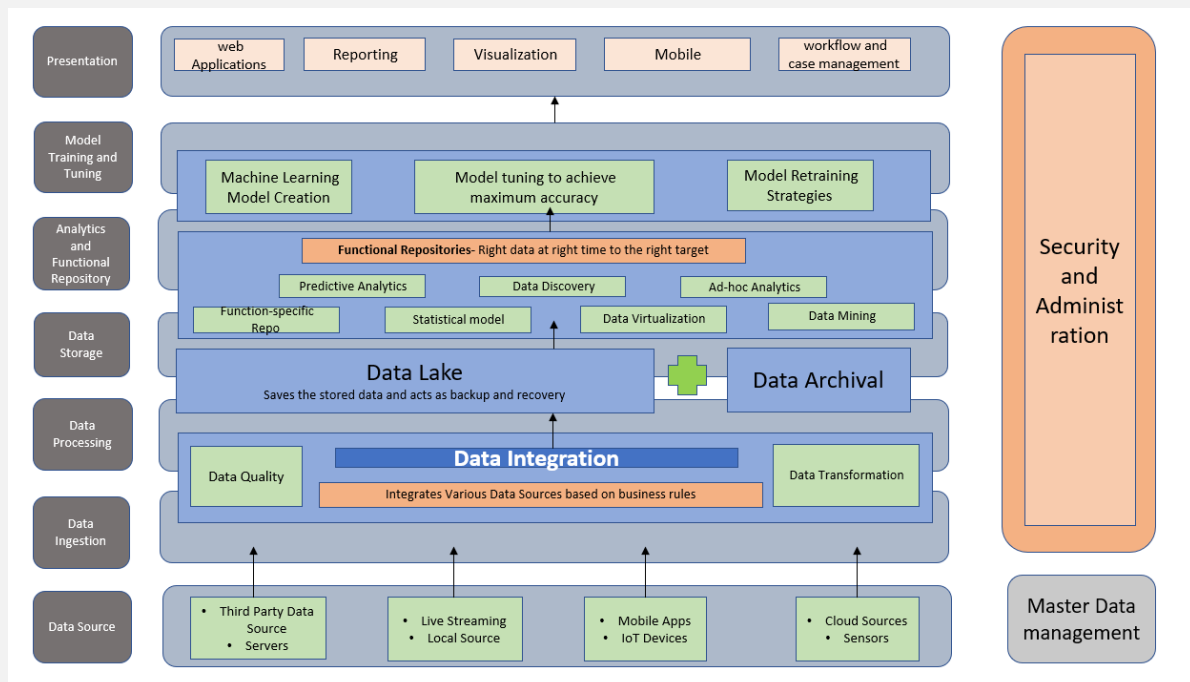
## 2:Machine Learning Modeling Part Architecture

The below Diagram explains the Machine learning pipeline architecture where the Data set what we have selected in order to build the prototype will have to go through the several stages in order to build a Machine Learning Model



## 3:- Enhanced Architecture

The below Diagram provides us the Enhanced Picture on the Complete AI system how it needs to be build and integrated in the Caratline Online Portal which includes right from Data collection stage to deployment stage and also includes with security integration .



### 3:- Tech Stack to be Used

- 1- Python - Programming language
- 2- Machine Learning Algorithms –Classification/Regression
- 3- Flask / Streamlit – Python based Web Framework
- 4- Heroku – To deploy the AI system on to Heroku cloud environment

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Thank you