बैंक ऑफ़ बड़ौदा
Bank of Baroda

Technology Partner
Microsoft Azure

Bank of Baroda Hackathon - 2022

Your Team Name :Hexa Heralds

Your team bio :our team focuses on solving real time issues

Date :20-9-2022

Problem Statement?

Why did you decide to solve this Problem statement?

We have come across many problem statements we found this to be most vital one . As in this modern times,as the technology started developing many new techniques have started to arrive in many fields.Now-a-days thefts are most commonly seen everywhere.To ensure secure banking,we have decided to give a solution for thefts which are happening in banks and to easily identify the person involved in that.Using AI and Deep Learning we are going to approach this problem statement.

User Segment & Pain Points

Which user /advertiser segment would be early adopter of your product & why?

- **Banks**
- **Government Organisation**

  Banks will be given the first priority as thefts are more and it has been a tedious job in finding the real culprit.We give assurance to safe and secure mode of banking experience.

  This will also help Government organisations to make sure that all important credentials are safe and also the thefts can be avoided if these cameras are installed.

Pre-Requisite

What are the alternatives/competitive products for the problem you are solving

- **Face Match-Face Recognition**
- **IP Camera Viewer**
- **iCamViewer IP Camera Viewer**
- **Live Camera-Street view**

Azure tools or resources

Azure tools or resources which are likely to be used by you for the prototype, if your idea gets selected

- **Artificial Intelligence**
  ->Facial Recognition
- **OpenCV**
  ->For importing libraries required for facial recognition and video analytics
- **Python deep learning**
  ->For building neural networks
- **LSTM(Long Short Term Memory) methodology**
  ->For building RNN algorithm
- **Histogram of oriented gradient discriptor**
  ->For computer vision and image processing

Any Supporting Functional Documents

Present your solution, talk about methodology, architecture & scalability

Firstly in this model , the video analytics is done for a particular area. where the video recorded using webcam is analysed and the count of people in that particular area is constantly recorded. Human Detection and Counting System through Webcam can be build by python(deep learning).this is an intermediate level deep learning project on computer vision. This will help us to find the number of people within the particular area of focus.HOG (Histogram of Oriented Gradient Descriptor)is a feature descriptor used in computer vision and image processing for the purpose of object detection using AI the sentiments of the customer (people in the video)is analysed camera tampering indicates criminal acts. if any abnormalities in the performance of the video are found , they are detected by the sensor attached to it ,where the alarms are automatically turned on in this model(app) we recognize the customer,s activity using the mechanism called LSTM(long short term memory) model of the recurrent neural network (RNN). RNN is used to recognize various activities like standing, climbing upstairs , downstairs etc.The movement data was recorded in the form of graph at the rate of 50 data points per second.observations are recorded on the basis of movement of the mobile in which the app is installed at frequency of 50Hz.

Key Differentiators & Adoption Plan

How is your solution better than alternatives and how do you plan to build adoption?

All those alternative apps which was mentioned before doesn’t satisfy all the parameters which we need to verify.Even if they can check the accuracy is much lower compared to doing with AI.Using deep learning and AI our accuracy in headcount and face match is upto 99% .So,in many ways our way of approach in solving this problem is much better and sustainable.

GitHub Repository Link & supporting diagrams, screenshots, if any

How far it can go?

TECHGIG

Thank You

Team member names:

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