# Fashion Products Classifier using Visual Recognition

## Project Report

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# INTRODUCTION

## •Overview

Visual Recognition is a tool that allow users to automatically identify subjects and objects contained within the image and organize and classify these images into logical categories.

Fashion Products Classifier using visual recognition helps in identifying different fashion products like Shirts, Jeans and T-Shirts.

## •Purpose

The purpose of this project is to identify different fashion products using Watson Studio's Visual Recognition service. Using visual recognition service, I trained the custom model which predicts whether the image is a Shirt, Jeans or T-shirt.

# LITERATURE SURVEY

- Existing problem

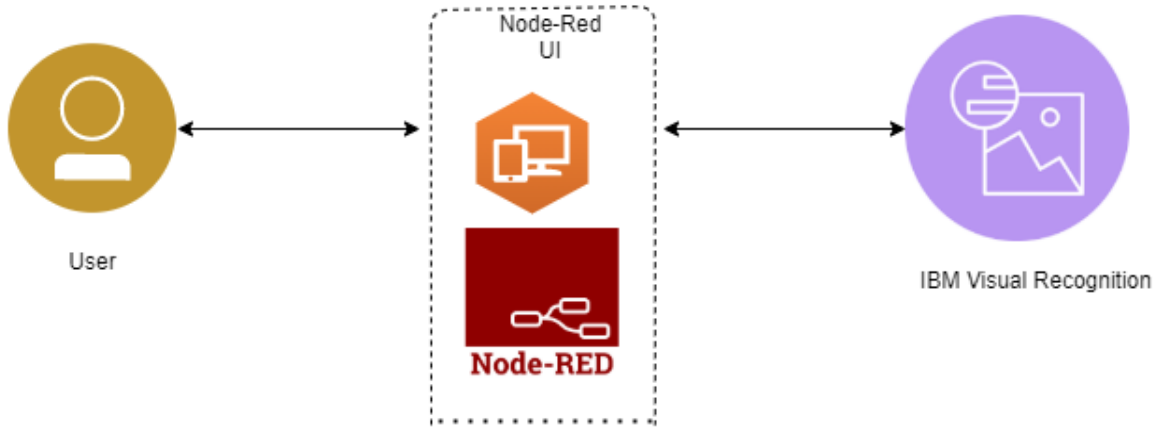
In fashion industries, obtaining a visual analysis of the overall production is a key aspect, both in developing marketing strategies and for helping fashion designers in the creative workflow of new products. As a first important step in order to proceed with a visual analysis, the various outcomes of the designers' work must be collected and categorized. The product classification helps in determining which product is in abundance and which product has a shortage and accordingly production can be done.

- Proposed Solution

Building a custom model using IBM Watson Studio's Visual Recognition Service having different class for each category and integrate it with Node-Red service to get a web browser-based user interface.

# THEORITICAL ANALYSIS

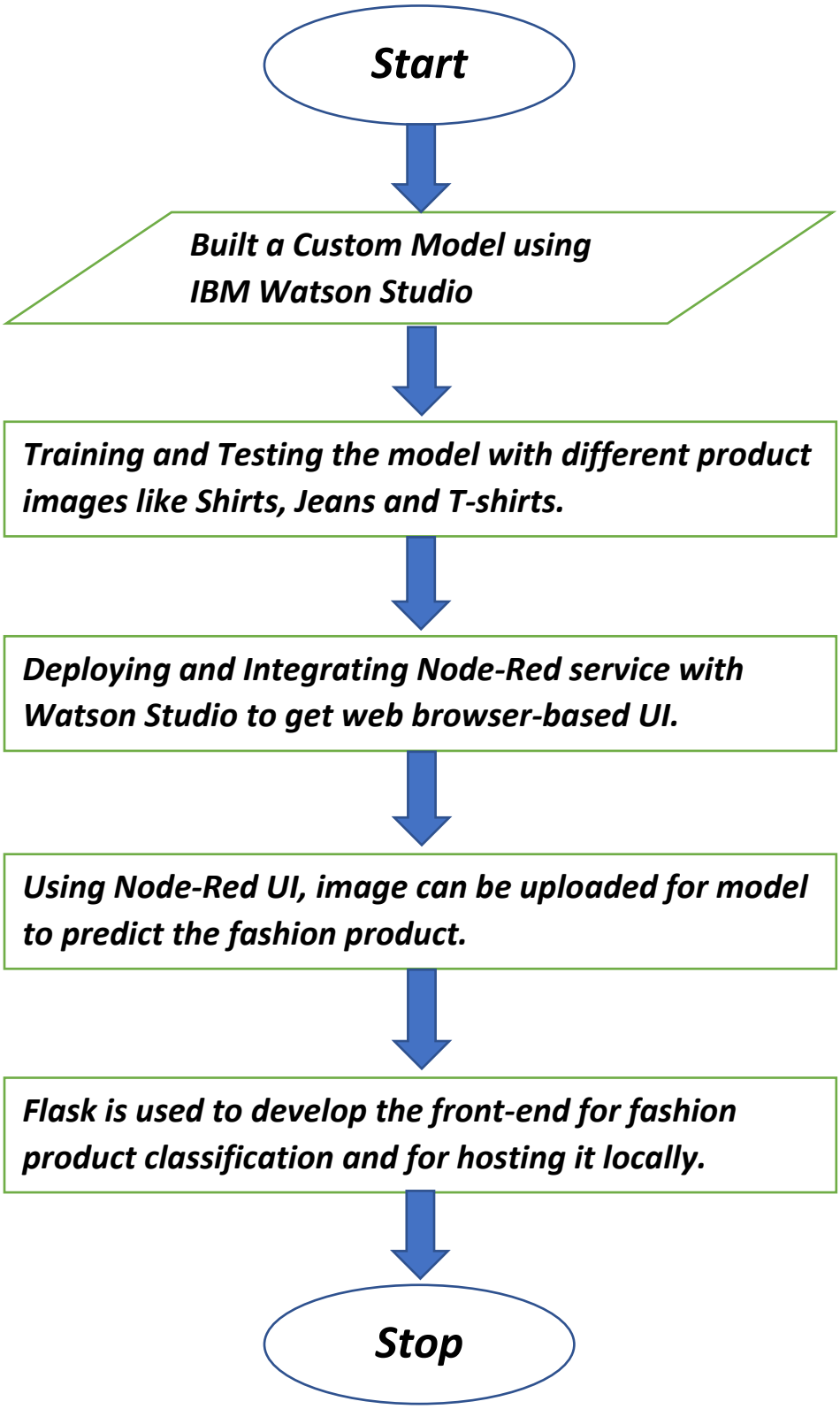
- Block diagram



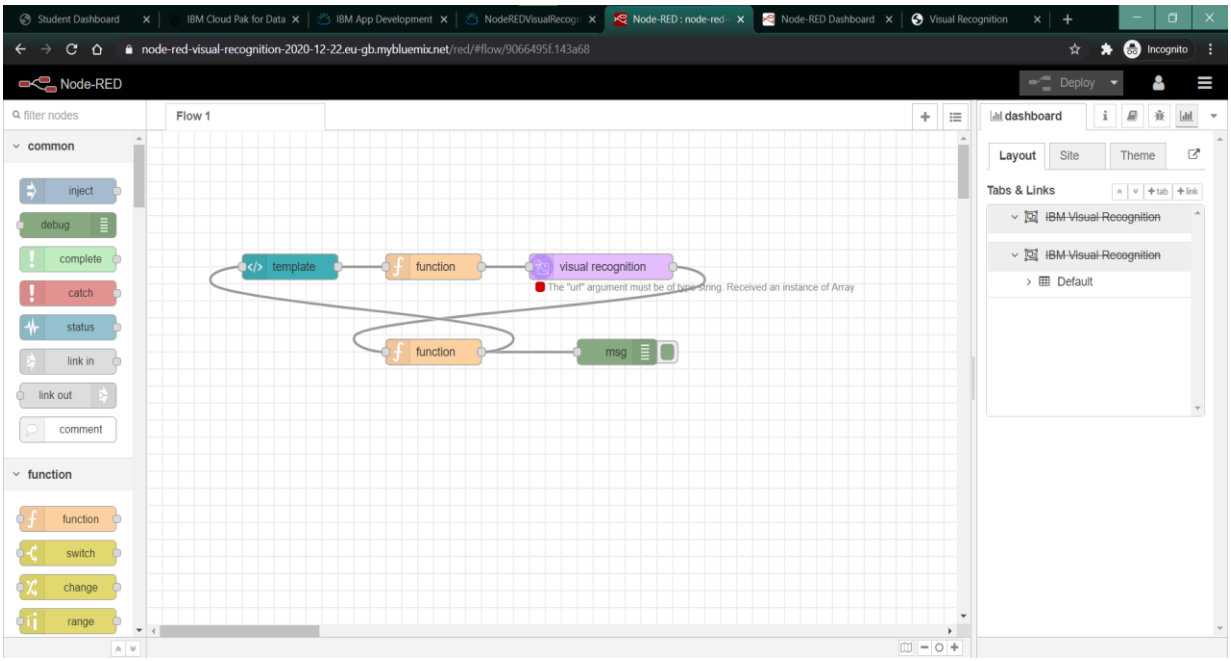

- Software designing

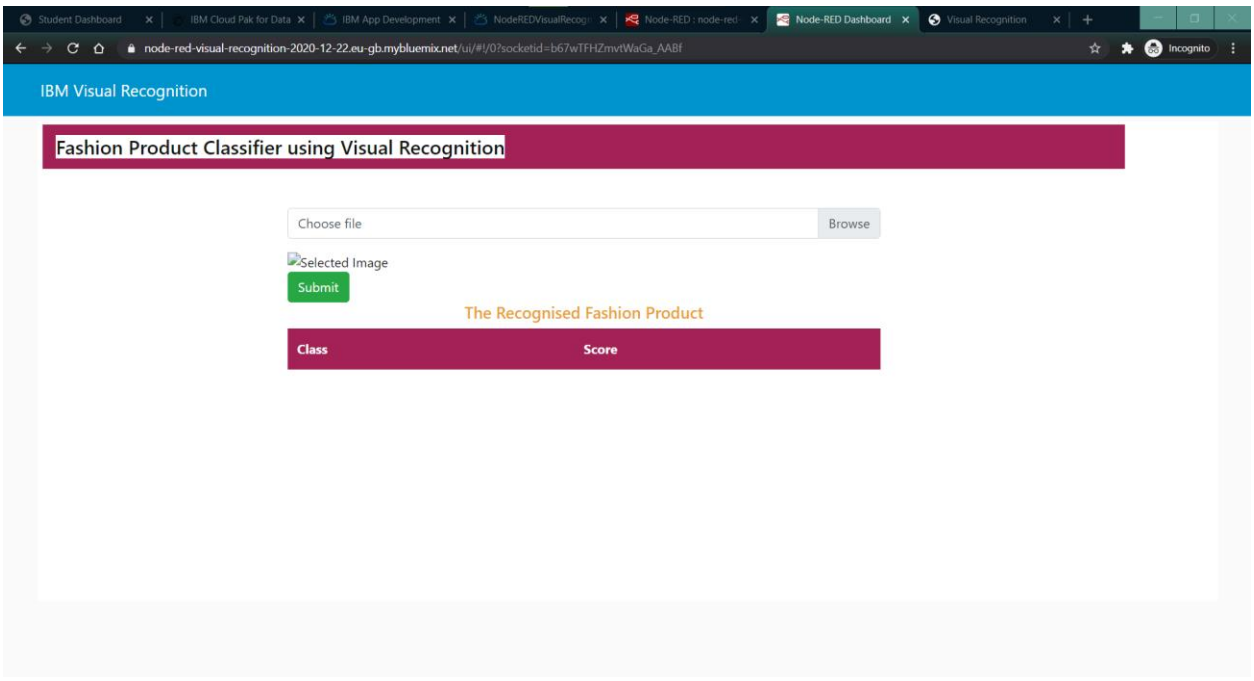
1. Building a custom model using Watson Visual Recognition service, trained with many images in each class.
2. Deploying a Node-Red Service and integrating it with Watson Visual Recognition service using Node-Red flow editor.
3. A web-based user interface using Node-Red helps user in predicting the fashion product.

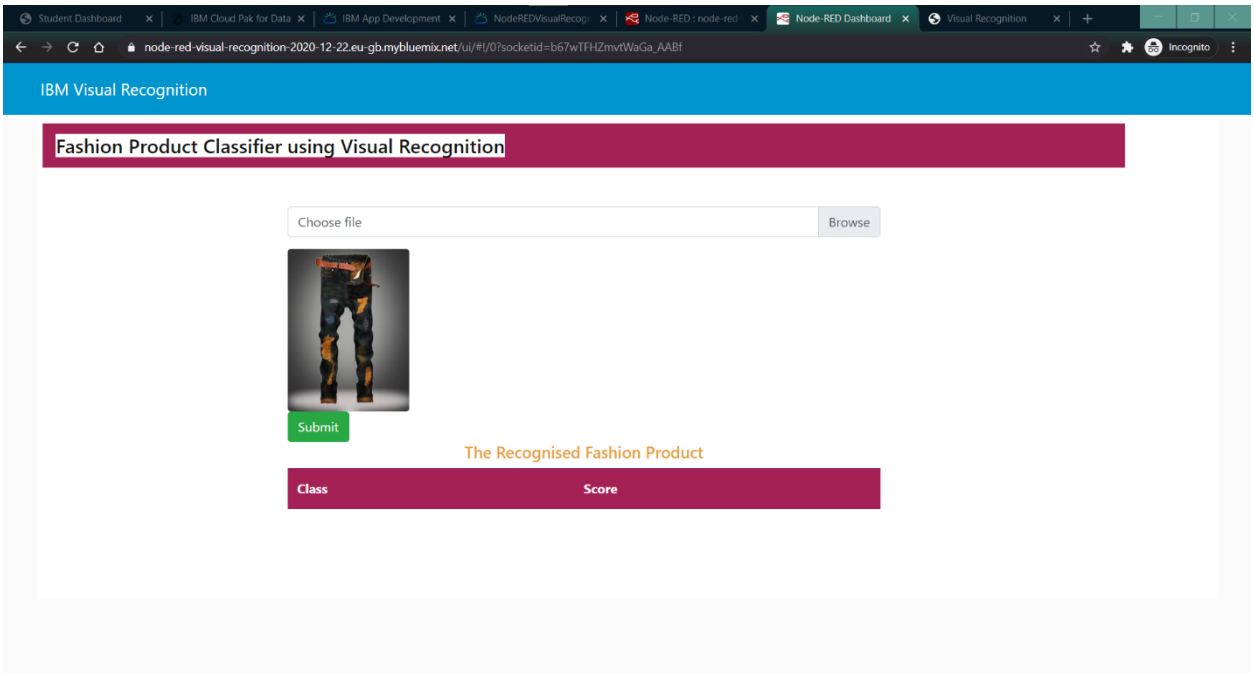
# FLOWCHART

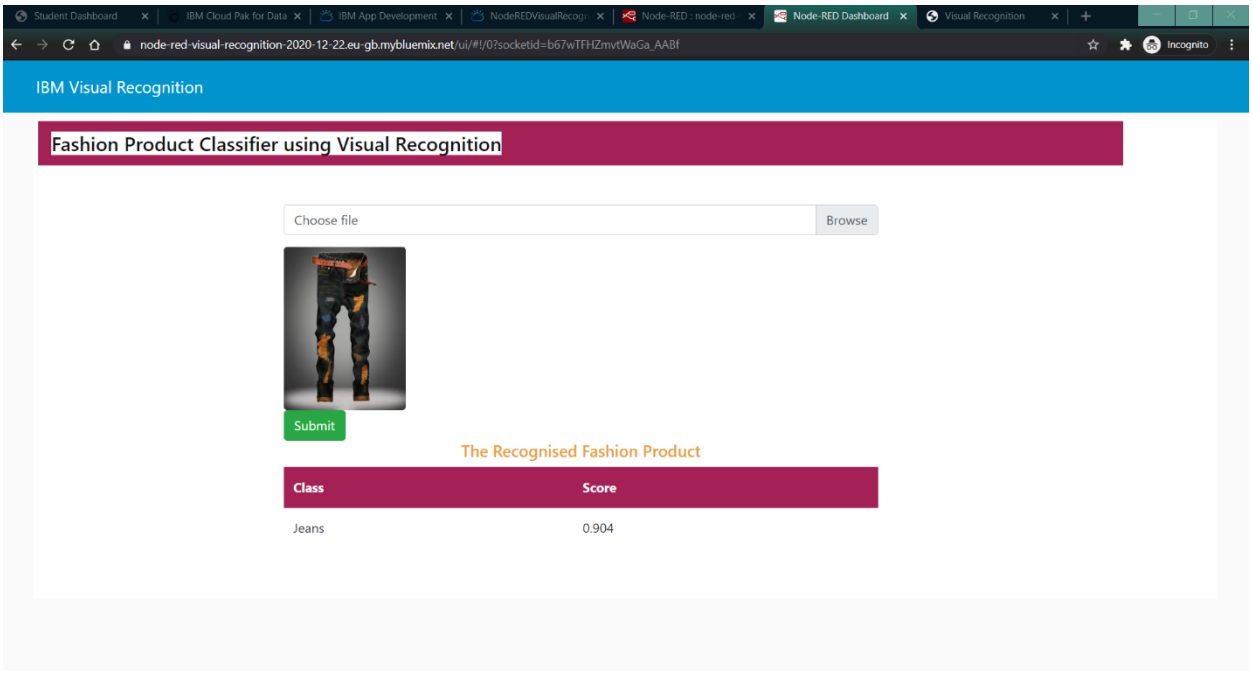

Start
Built a Custom Model using IBM Watson Studio
Training and Testing the model with different product images like Shirts, Jeans and T-shirts.
Deploying and Integrating Node-Red service with Watson Studio to get web browser-based UI.
Using Node-Red UI, image can be uploaded for model to predict the fashion product.
Flask is used to develop the front-end for fashion product classification and for hosting it locally.
Stop

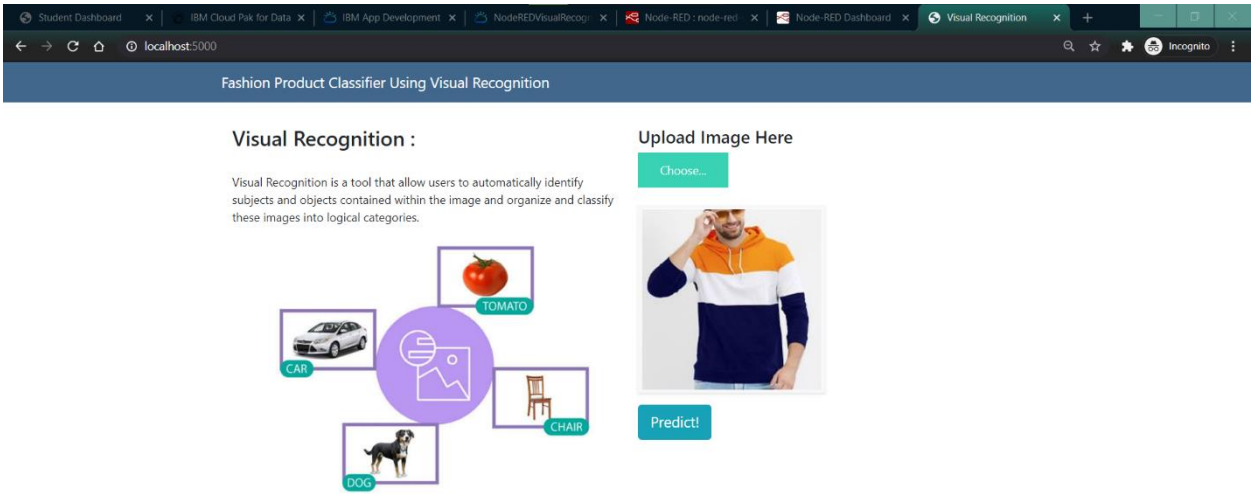
# Snapshots

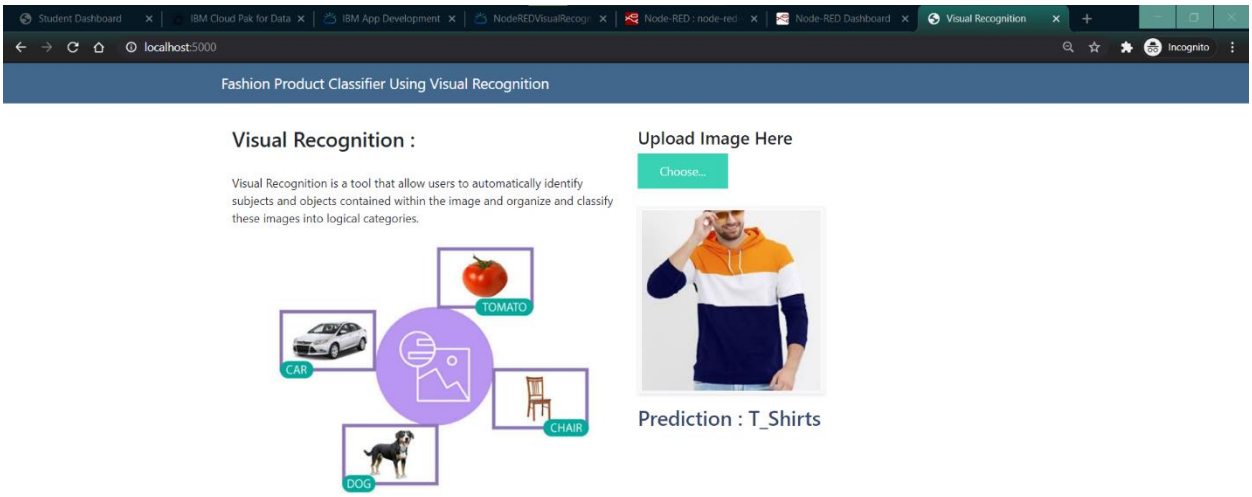

Node-RED
Flow 1
common
inject
debug
complete
catch
status
link in
link out
comment
function
function
switch
change
range
template
function
visual recognition
The "url" argument must be of type string. Received an instance of Array
function
msg
dashboard
Layout
Site
Theme
Tabs & Links
IBM Visual Recognition
IBM Visual Recognition
Default


IBM Visual Recognition
Fashion Product Classifier using Visual Recognition
Choose file
Browse
Selected Image
Submit
The Recognised Fashion Product
Class
Score


Student Dashboard
IBM Cloud Pak for Data
IBM App Development
NodeREDVisualRecogn
Node-RED : node-red
Node-RED Dashboard
Visual Recognition
node-red-visual-recognition-2020-12-22.eu-gb.mybluemix.net/ui/#!/0?socketid=b67wTFHZmvtWaGa_AABf
Incognito
IBM Visual Recognition
Fashion Product Classifier using Visual Recognition
Choose file
Browse
Submit
The Recognised Fashion Product
Class
Score


Student Dashboard
IBM Cloud Pak for Data
IBM App Development
NodeREDVisualRecogn
Node-RED : node-red
Node-RED Dashboard
Visual Recognition
node-red-visual-recognition-2020-12-22.eu-gb.mybluemix.net/ui/#!/0?socketid=b67wTFHZmvtWaGa_AABf
Incognito
IBM Visual Recognition
Fashion Product Classifier using Visual Recognition
Choose file
Browse
Submit
The Recognised Fashion Product
Class
Score
Jeans
0.904


Student Dashboard
IBM Cloud Pak for Data
IBM App Development
NodeREDVisualRecogn
Node-RED : node-red
Node-RED Dashboard
Visual Recognition
localhost:5000
Incognito
Fashion Product Classifier Using Visual Recognition
Visual Recognition :
Visual Recognition is a tool that allow users to automatically identify subjects and objects contained within the image and organize and classify these images into logical categories.
TOMATO
CAR
CHAIR
DOG
Upload Image Here
Choose...
Predict!


Student Dashboard
IBM Cloud Pak for Data
IBM App Development
NodeREDVisualRecogn
Node-RED : node-red
Node-RED Dashboard
Visual Recognition
localhost:5000
Incognito
Fashion Product Classifier Using Visual Recognition
Visual Recognition :
Visual Recognition is a tool that allow users to automatically identify subjects and objects contained within the image and organize and classify these images into logical categories.
TOMATO
CAR
CHAIR
DOG
Upload Image Here
Choose...
Prediction : T_Shirts

# ADVANTAGES

- Visual Recognition helps in identifying images and objects and classify them into logical categories.
- Watson Studio helps in training and testing the model without explicitly programming anything.
- Node-Red provides browser-based editor that makes it easy to wire together flows using nodes and deploy to its runtime in a single-click.

# DISADVANTAGES

- A large dataset is required to achieve higher accuracy.
- Training and testing a large amount of data is time consuming.

# APPLICATIONS

Visual Recognition of commercial products is a branch of the wider fields of object detection, it is an important step in the creative workflow in fashion industries. Automatically classifying garment features makes both designers and data experts aware of their overall production, which is fundamental in order to organize marketing campaigns, avoid duplicates, categorize apparel products for e-commerce purposes, and so on.

E-Commerce websites use visual recognition extensively as they need to classify various products including fashion products and automate the process of classification of different products without explicitly programming training and testing programs.

# CONCLUSION

- Fashion Products classifier using visual recognition is used to classify products into Shirts, Jeans and T-shirts.
- Watson Studio is used to implement the visual recognition service using a custom-built model.
- Node-red service gives user the web interface so that user can use visual recognition model and predict the fashion product.

# FUTURE SCOPE

- Fashion product classifier can be used to classify products into more categories by doing some modifications.

- Different wearables like shoes, caps and socks can be added to make it more versatile.

# BIBLIOGRAPHY


- IBM Watson Visual Recognition
- Node-Red
- Flask

# APPENDIX

## Source Code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.attr('src', e.target.result)\n                    .width(150)\n                    .height(200);\n
};\n\n            reader.readAsDataURL(input.files[0]);\n            x= input.files[0]\n\n
\n            \n\n        }\n    }\n    function getdata(data)\n\t{\n\t\t var html = '';\n
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```

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