Food Classification App

IDS 594 ML Deployment

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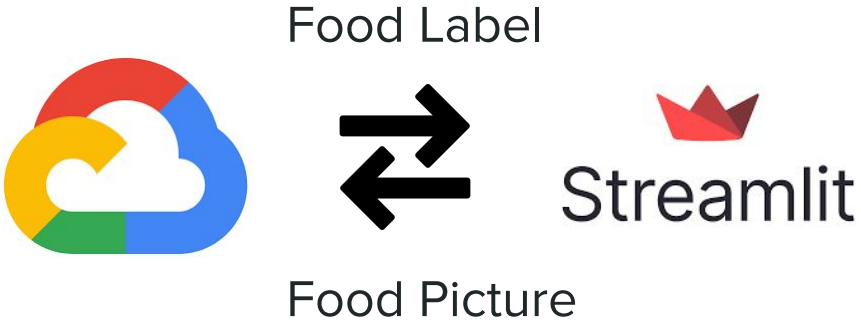
Objective

- To deploy the Food Classification Model using Google Cloud Platform
- To facilitate users accessing the image classification model with the ML Application building on Streamlit

Why Google Cloud & Streamlit ?

- Simplicity
- User friendly
- Trend



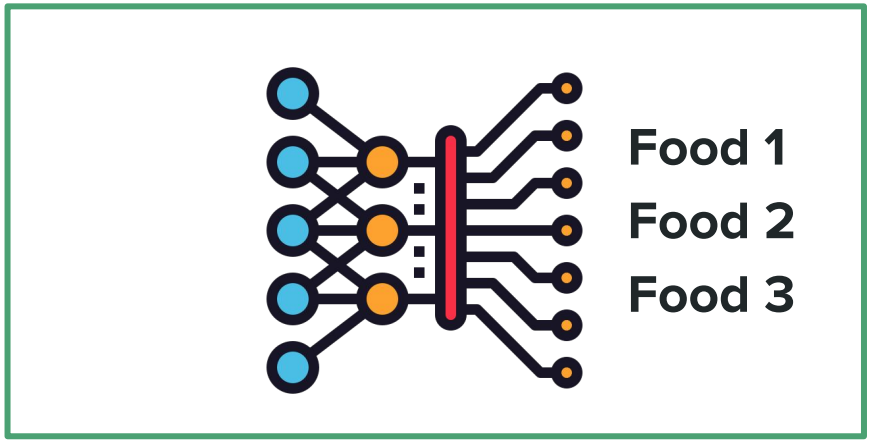
Tools & Methodology 🛠️

Model:

- Food Classification (Deep Learning) Model

Tools:

- Streamlit
- Google Cloud Project
- Google Storage
- Docker

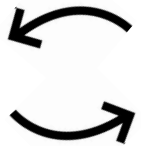


Project Workflow

Built the image classification model in Colab

Uploaded model to Google Storage

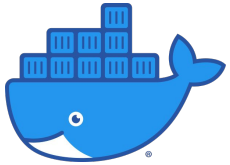
Hosted the model in GCP



“Pizza”

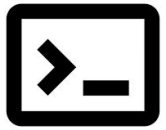
Users

App Built with Streamlit



App wrapped up in Docker Container

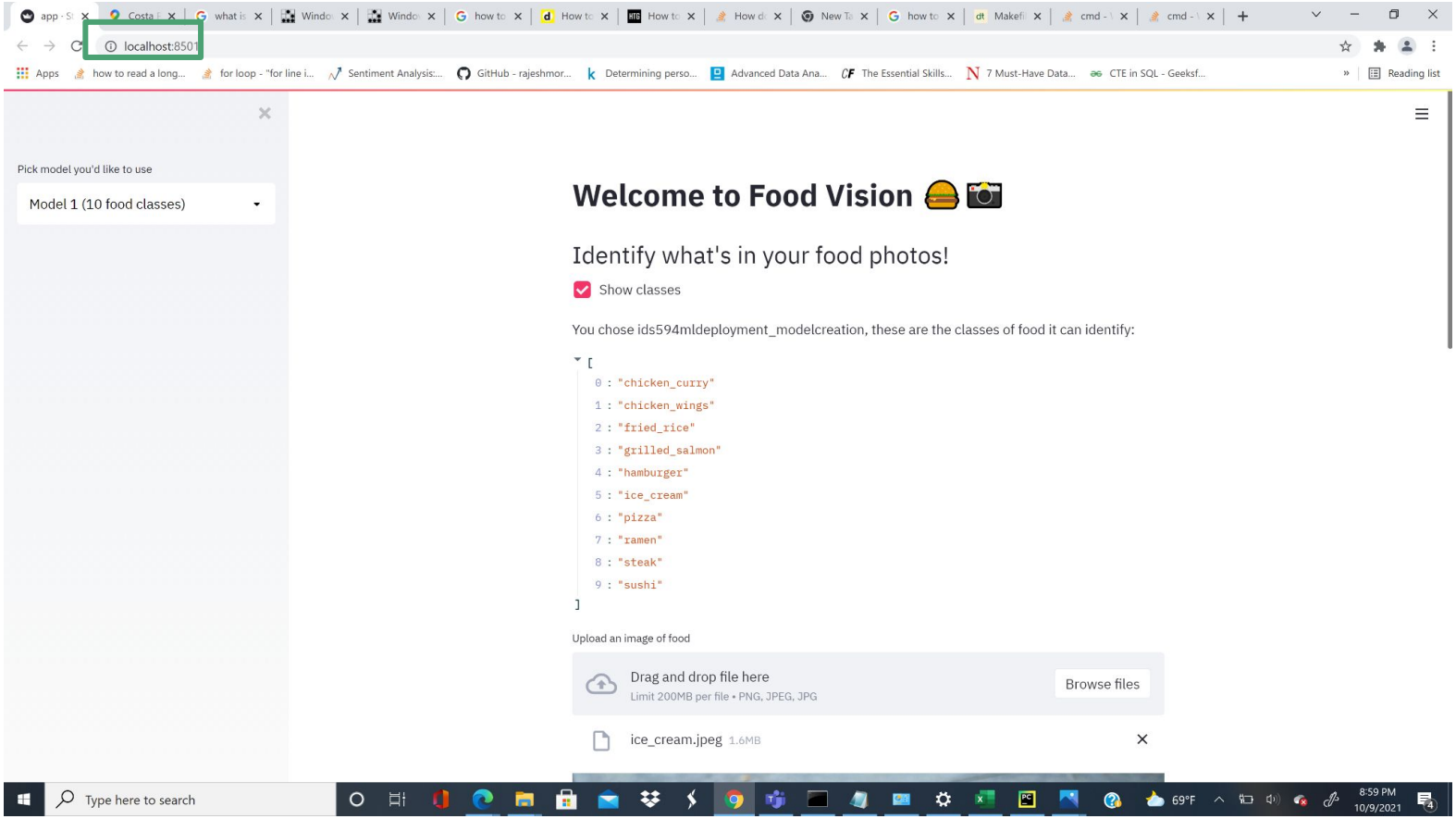
Tools & Methodology



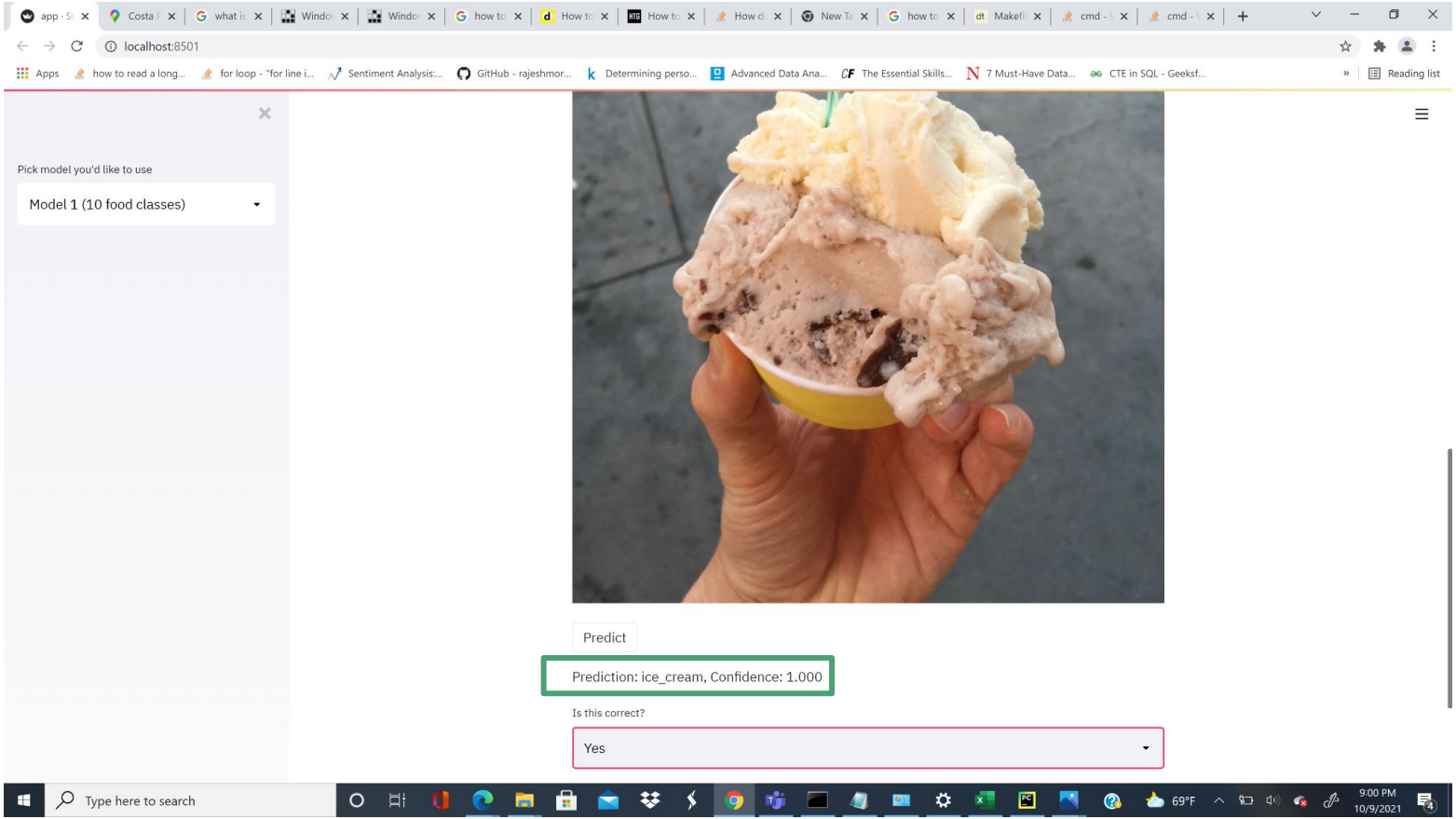
Methodology:

1. Develop food classification application locally using Streamlit (app.py)
2. Deploy food classification model in GCP
    - Running the model in Google Colab
    - Connect Google Colab with GCP: create the storage bucket and connect
3. Connect Streamlit application with GCP
    - Provide JSON key to Streamlit to access the model on GCP
4. Deploy the app to App Engine
    - Wrap the model inside the docker and deploy on GCP
5. Access the result page

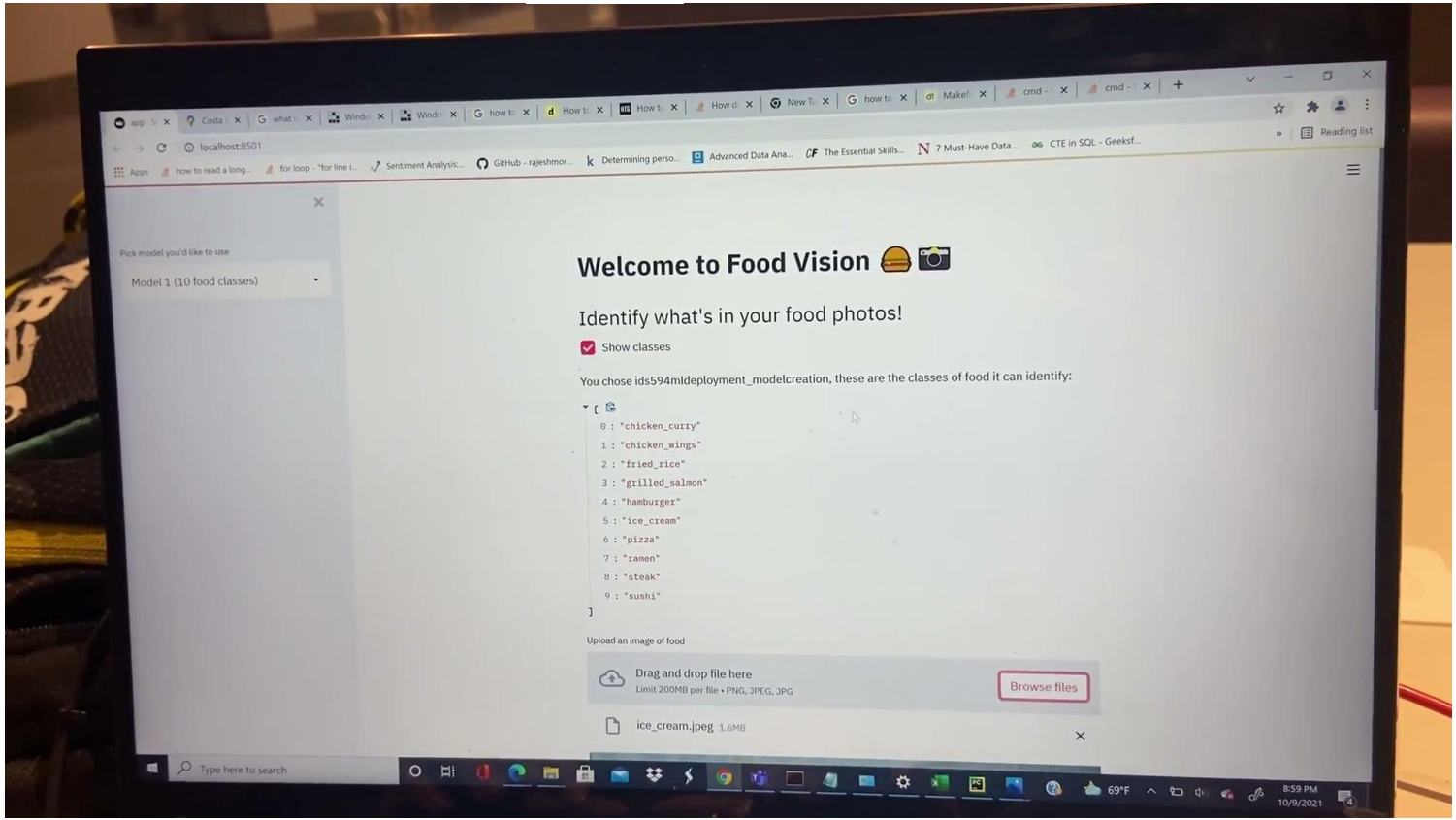
Results


localhost:8501
Pick model you'd like to use
Model 1 (10 food classes)
Welcome to Food Vision
Identify what's in your food photos!
Show classes
You chose ids594mldeployment_modelcreation, these are the classes of food it can identify:
[
0 : "chicken_curry"
1 : "chicken_wings"
2 : "fried_rice"
3 : "grilled_salmon"
4 : "hamburger"
5 : "ice_cream"
6 : "pizza"
7 : "ramen"
8 : "steak"
9 : "sushi"
]
Upload an image of food
Drag and drop file here
Limit 200MB per file • PNG, JPEG, JPG
Browse files
ice_cream.jpeg 1.6MB
Type here to search
69°F
8:59 PM
10/9/2021

Results


localhost:8501
Pick model you'd like to use
Model 1 (10 food classes)
Predict
Prediction: ice_cream, Confidence: 1.000
Is this correct?
Yes
Type here to search
69°F
9:00 PM
10/9/2021

Time to use our App!




Thank you