

MP3 Instructions – INFO4000I

Flask based app deployed to the Oracle cloud.

You will develop the application specified below and deploy it in the oracle academy cloud. You will also write a tutorial on how a flask app is developed for such an application.

Two different pretrained models are available to do predictions on different types of objects in images. Example files of how these models are used for prediction is provided. One of the models is a Vision Transformer Model (ViT) trained on the Coco dataset and another is a yolo model which has been trained to predict objects in images.

Task:

Incorporate these pretrained models in a flask application such that:

- A user can choose whether they want to use the ViT model or Yolo model for prediction. Write a brief one-line text about what each model does so that the user can choose a model accordingly.
- Once the choice is made, the user should be directed to upload an image.
- When the image is uploaded, the appropriate route in flask is called and a prediction is made.
- **If the ViT model was chosen, then the object that was predicted will be sent back to the user as text. If the Yolo model is chosen, then an image with the prediction in bounded boxes is sent to the user.**
- The working model is then deployed in the cloud as a web application (to your DNS), where a user can use it as described above. Remember to set debug=False before deploying to production.

Deliverables:

1. The complete project will be done using VSCode and your Oracle cloud account.
2. The main submission will be your URL (Website) and it should work. You will also submit the complete flask application folder as a zip file.

This MP3 will be due by midnight on July 5th midnight.

Evaluation criteria

1. **Website runs without errors = 100% → 50% for each chosen model route working.**

Coco Dataset classes for reference:

<https://docs.ultralytics.com/datasets/detect/coco/#dataset-yaml>