iNeuron

Project Title	Mask Wear Detector
Technologies	Deep Learning Technology (Computer Vision)
Domain	Safety and Security
Project Difficulties level	Intermediate

Problem Statement:

COVID-19 pandemic has rapidly affected our day-to-day life disrupting the world trade and movements. Wearing a protective face mask has become a new normal. In the near future, many public service providers will ask the customers to wear masks correctly to avail of their services. Therefore, face mask detection has become a crucial task to help global society.

COVID-19 mask detector could potentially be used to help ensure your safety and the safety of others.

Approach: A simplified approach to achieve this purpose using some basic Machine Learning packages like TensorFlow, Keras, OpenCV and Scikit-Learn. This method detects the face from the image correctly and then identifies if it has a mask on it or not.

Results: You have to build a robust solution that should detect and identify the person is wearing mask or not. With a varying distance and color combination, it should work for any person.

Dataset:

Click here to enter text.

You have to collect your dataset for this project, and based on that you have to design your solution and create a repo for the dataset.

Project Evaluation metrics:

Code:

- You are supposed to write a code in a modular fashion
- Safe: It can be used without causing harm.
- Testable: It can be tested at the code level.
- Maintainable: It can be maintained, even as your codebase grows.
- Portable: It works the same in every environment (operating system)
- You have to maintain your code on GitHub.
- You have to keep your GitHub repo public so that anyone can check your code.
- Proper readme file you have to maintain for any project development.
- You should include basic workflow and execution of the entire project in the readme file on GitHub
- Follow the coding standards: https://www.python.org/dev/peps/pep-0008/

Database:

- You are supposed to use a given dataset for this project which is a Cassandra database.
- https://astra.dev/ineuron

Cloud:

- You can use any cloud platform for this entire solution hosting like AWS, Azure or GCP

API Details or User Interface:

- You have to expose your complete solution as an API or try to create a user interface for your model testing. Anything will be fine for us.

Logging:

- Logging is a must for every action performed by your code use the python logging library for this.

Ops Pipeline:

- If possible, you can try to use AI ops pipeline for project delivery Ex. DVC, MLflow , Sagemaker , Azure machine learning studio, Jenkins, Circle CI, Azure DevOps , TFX, Travis CI

Click here to enter text.

Deployment:

- You can host your model in the cloud platform, edge devices, or maybe local, but with a proper justification of your system design.

Solutions Design:

- You have to submit complete solution design strategies in HLD and LLD document

System Architecture:

- You have to submit a system architecture design in your wireframe document and architecture document.

Latency for model response:

- You have to measure the response time of your model for a particular input of a dataset.

Optimization of solutions:

- Try to optimize your solution on code level, architecture level and mention all of these things in your final submission.
- Mention your test cases for your project.

Click here to enter text.

Submission requirements:

High-level Document:

You have to create a high-level document design for your project. You can reference the HLD form below the link.

Sample link:

[HLD Document Link](#)

Low-level document:

You have to create a Low-level document design for your project; you can refer to the LLD from the below link.

Sample link

[LLD Document Link](#)

Architecture: You have to create an Architecture document design for your project; you can refer to the Architecture from the below link.

Sample link

[Architecture sample link](#)

Wireframe: You have to create a Wireframe document design for your project; refer to the Wireframe from the below link.

Demo link

[Wireframe Document Link](#)

Project code:

You have to submit your code GitHub repo in your dashboard when the final submission of your project.

Demo link

Click here to enter text.

[Project code sample link :](#)

Detail project report:

You have to create a detailed project report and submit that document as per the given sample.

Demo link

[DPR sample link](#)

Project demo video:

You have to record a project demo video for at least 5 Minutes and submit that link as per the given demo.

Demo link

[Project sample link :](#)

The project LinkedIn a post:

You have to post your project detail on LinkedIn and submit that post link in your dashboard in your respective field.

Demo link

[Linkedin post sample link :](#)

Click here to enter text.