# Project Proposal

## [ Project Title

**Face Mask Detection System**

**Using**

**Artificial Intelligence**

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# [ Executive Summary

This proposal aims to help the people specifically the authorities of different LGUs in the Philippines in detecting and monitoring their people about wearing of face mask mandatorily. Wearing of face mask is one of the solutions to stop the spreading of coronavirus and by developing this Face Mask Detection project, authorities in different LGUs can easily monitor and track the people who are not wearing face mask on the streets. It will also help minimizing the risk exposure of the LGUs authorized personnel.

# [ Statement of the Problem

Due to the continuous increase in COVID-19 cases in the Philippines, the national government advised the LGUs to issue an order/ordinance on the mandatory wearing of face mask of every individual when they leave their home and impose penalties and/or punishments to those who will violate this. The mandatory wearing of face mask is in line with the study of WHO that COVID-19 is transmitted through droplets of a person when they are speaking, coughing or sneezing.

Most of the LGUs adopted the idea of the mandatory wearing of face mask but not all of them were able to implement this effectively. The LGUs have difficulties in tracking and monitoring this because of the scarcity in the number of uniformed/authorized personnel.

# [ Proposed Solution

We have a project proposal called "**Face Mask Detection**" which can detect and monitor individuals who are not wearing face mask. The system could be interegated CCTV Cameras. By using this, the LGUs can monitor their communities easily and this would also help in minimizing the risk exposure of our uniformed/authorized personnels.


If the model detected a person who’s not wearing a face mask, it will capture and save an image of the detected face and record the time it was detected into a csv file.

Picture Demo: Link

# [ Development Process

- **Data Gathering –** We gathered different images of people who are wearing and not wearing a face mask from google.
- **Model Development/Experiment –** After collecting the data and finished labeling each of the image and splitting it to training and testing sets, we will start the training of the data and experimenting different models.
- **Testing / Review –** Once we finished the training of the model, we will start testing the model if it can detect people who are not wearing face mask.
- **Deployment –** Once we are sure that the model is ready to be released, we will start integrating it to CCTV Cameras.

# [ Project Timeline

| **Milestone** | **Date Reached** |
|---|---|
| Data Gathering | April 13, 2020 |
| Model Development/Experiment | May 15, 2020 |
| Testing / Review | May 20, 2020 |
| Deployment | May 27, 2020 |

# [ Cost Summary

## Project Cost

| Project | Price |
|---|---|
| Face Mask Detection System | Php 30,000 |
| **Deployment** | **Price** |
| CCTV Camera | Php 5,000 |

## Development Cost (Personnel)

| | | |
|---|---|---|
| 1 A.I Researcher | 30 days @ Php 750/day | Php 22,500 |
| 1 Developer | 30 days @ Php 750/day | Php 22,500 |
| | **Total Development Cost (Personnel):** | Php 45,000 |
| **Development Cost (Hardware)** | | |
| Asus VivoBook X542U-Core i5 laptop | 1 unit @ Php 35,000 | Php 35,000 |
| Asus X411UF-EB108T Core i5 laptop | 1 unit @ Php 33,000 | Php 33, 000 |
| Monitor | 2 unit @ Php 4,000 | Php 8,000 |
| | **Total Development Cost (Hardware):** | Php 76, 000 |
| **Operating Cost (Miscellaneous)** | | |
| Electricity | 1 month | Php 2,000 |
| Internet | 1 month | Php 2,000 |
| | **Operating Cost (Miscellaneous):** | **Php 4,000** |
| | **Total Development Cost:** | **Php 125,000** |

**Project Cost + Deployment + Total Development Cost = Overall Total**