

# CHAPTER 1

## INTRODUCTION

### 1.1. Background

The Corona virus, also known as Covid-19, is a current global pandemic. The impact of this virus on the Indonesian and global populations is unquestionably severe. This infection has interfered with all activities. Work activities are the first to be hampered, followed by tourism, dining, and amusement. In order to hasten the eradication of this virus, the government also exhorts the populace to stay home, work from home, and postpone vacations. The general public is required to wear at least a three-ply mask, use hand sanitizer while handling objects, and wash their hands with soap before entering a location if leaving the house is absolutely necessary due to an emergency.

Images of human faces wearing or not wearing masks are recognized using machine learning. The Naive Bayes Classifier and Support Vector Machine (SVM) are the types of machine learning that will be utilized in this project topic. The Naive Bayes Classifier is a supervised approach that uses conditional probabilities to assign class wires in order to categorize things in the future. Amounts things can be evaluated using this method. Regarding the Support Vector Machine (SVM), this method is beneficial for both regression and classification. The optimal hyperplane that serves as a partition between two data classes in the input space is found using SVM. SVM will attempt to obtain the ideal hyperplane (decision boundary) to distinguish between the two classes.

### 1.2. Problem Formulation

1. How to implement the Naïve Bayes and SVM algorithms to create a human face mask detection system?
2. What learner's parameters will produce the best results?
3. Whose detector and which setups provide the best accuracy balance?

### 1.3. Scope

1. The algorithm used for comparison is Naïve Bayes and SVM and implemented by Orange Data Mining software.
2. The dataset used is an image of a human face wearing a mask and not wearing a mask that has been categorized.
3. The object used for comparison is a person face either wearing a mask or not.
4. The required result of the comparison is the accuracy, precision and recall of the algorithm.

### 1.4. Objective

The purpose of this comparative analysis activity is to find out which algorithm is the most accurate to detecting people who wear masks or not . The results sought are the accuracy of the program in detecting people who use masks or not.

