

CHAPTER 3

RESEARCH METHODOLOGY

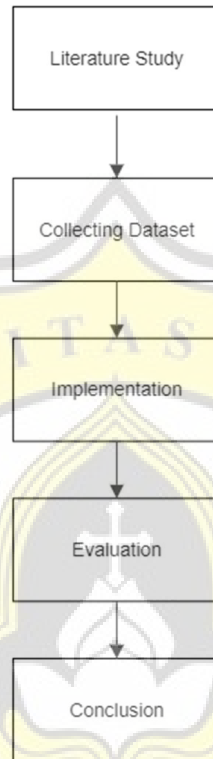


Figure 3.1 Research Methodology

3.1 Literature Study

The collection of journals that use the Naive Bayes and SVM algorithms is the basis of this study, based on Figure 3.1. This study report includes contains articles from journals that deal with Orange Data Mining. The journals mentioned in this report will be beneficial for conducting this research as thoroughly as achievable.

3.2 Data Collection

An image dataset of people wearing various kinds of masks and those without masks was used in this project. The dataset contains variations in terms of gender, skin tone, positions, facial expressions, and the presence of people. There are more than 1300 image data that may be obtained from the dataset utilizing the Kaggle.com website. The dataset is separated into two folders, with

the first folder containing the name 0 for images of subjects that aren't wearing masks and the one with the name 1 for images of subjects who are. The program's accuracy will be tested using the available dataset in a number of steps. 331 datasets were examined in the first stage, 732 datasets in the second stage, and 1376 datasets in the third stage.

3.3 Implementation

Using Image Analytics, the acquired dataset will be transferred into the Orange Data Mining program during the implementation phase. The next phase is Image Embedding, which reads the image and either evaluates it locally or uploads it to a distant server. The purpose of the Data Table widget is to make sure that all data is input correctly and that no data is missing or inaccurate. Then use Prediction widget and Test and Score widget, which are already connected to Naive Bayes and SVM, to run the process.

3.4 Evaluation

This evaluation is done in order to compare the accuracy of the two tested algorithms, Naive Bayes and Support Vector Machine. For figuring out the worth of accuracy, precision, and memory, this rating is helpful. Analysis of the data is obtained from each algorithm's with Confusion Matrix and ROC Analysis.

3.5 Conclusion

The results of the table from the research above will show which of the Naive Bayes and SVM algorithms is superior in classifying face mask detection in Image Analytics using Orange Data Mining software.