**CHAPTER FIVE**

**SUMMARY, CONCLUSION, AND RECOMMENDATION**

**5.1 Summary**

Predicting the incidence of covid-19 in Nigeria using polynomial regression was designed to predict the death rate from the total number of confirmed cases in Nigeria based on the information published by the Nigerian Center for Disease and Control. The system accepts information from a web-based interface and analyzes the information before subjecting it to the model and making a prediction based on the input value. Some specific achievements from this research work can be summarized as follows:

1. The polynomial algorithm has a Mean square Error of 0.9 which depicts a good prediction accuracy
2. The performance of the model was equally compared with linear regression which showed better performance over linear regression with better prediction
3. The value of the intercept generated and the value of the slope can be used to generate the equation for the regression

**5.2 Conclusion**

This research study uses polynomial regression to build a prediction model. The principal component of the system used certain attributes to predict the incidence of covid-19 cases in Nigeria. The model is capable of predicting death numbers from total confirmed cases. The polynomial chart was used to visualize the accuracy of the model. It can be drawn from the analysis that the nature of data contributes greatly to the choice of algorithm to develop the model.

Also, Nigeria's covid-19 dataset is not evenly distributed as this can be seen from the chart where there are clusters of the point at the base of the regression line except for Lagos which behaves like an outlier

**5.3 Recommendations**

The system developed in this thesis analyses the covid-19 cases in Nigeria using polynomial regression only. Therefore, we recommend that future research work be conducted in this area to analyze the data with different supervised algorithms like linear regression and also multiple linear regression.

Unsupervised learning like clustering algorithm may also be a good research point since the data conform to the dataset that can be clustered

**5.4 Contribution to Knowledge**

The major contribution to the knowledge of this research work are as follows:

1. The use of machine learning techniques in developing a predictive system for predicting the incidence of covid-19 cases
2. The development of a graphical representation of cases across the state of the federation using python libraries such as matplotlib and seaborn
3. Enhances the effective way of predicting cases using deep an interactive web-based front end to accept input.