CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

Today, in Nigeria, medical diagnosis are carried out by doctors, specialized in their field of study. Through proper and thorough examination of patients and their organs, these doctors are able to identify symptoms of known diseases. Their findings, aids them in the diagnosis of a patient and further prescription of treatment for the diagnosis.

For most diseases, the symptoms are finite and consistent in all occurrence or instances. For example, Heart disease is characterized by chest pain along with other symptoms, therefore patients who complain of chest pain are likely to be diagnosed of heart disease.

“Machine learning is a type of artificial intelligence (AI) that provides computers with the ability to learn without being explicitly programmed. Machine learning focuses on the development of computer programs that can teach themselves to grow and change, when exposed to new data.” (whatis.techtarget.com, 2016).

Machine learning is basically algorithms that can learn from observational data and can make predictions based on it. The learning algorithms are fed these data and a model is inferred by mathematically determining the relationship between the data and the predicted values. This model in turn is used to predict new values from new data supplied to it.

Tom M. Mitchell said “A machine learns with respect to a particular task T, performance metric P, and type of experience E, if the system reliably improves it’s performance P at task T, following experience E.” (Mitchell, 2006)

Types of machine learning includes the following:

1. Supervised Learning.

Supervised learning involves the provision of data attributes and already observed corresponding result of the data attributes as input or training data and the algorithm associates attributes to the result to form a model which will predict any other data attributes supplied to it.

2. Unsupervised Learning.

In unsupervised learning, the model is given raw observational data to make sense out of it. It groups the data into “clusters” or groups identified by similarity metric which might not conform to predisposed stereotypes. Example of this type of learning speech recognition

3. Reinforcement Learning.

Reinforcement Learning deals with dynamic data (data that changes). It tries to make decisions based on these data, it is provided with negative or positive feedback on every decision made. This feedback guides it’s subsequent decisions.

With the various advancements in machine learning algorithms, the task of learning from existing curated data has been made possible. This has given rise to various implementation of machine learning algorithms in different fields e.g. Medical Diagnosis, Natural language processing, Recommender systems e.t.c.

1.2 PROBLEM DEFINITION

Computers are made to ease and aid human daily activities, by automating tasks.

1.3 AIM AND OBJECTIVES

Aim

Objectives

1.4 RESEARCH JUSTIFICATION

1.5 SCOPE AND LIMITATION

1.6 DEFINITION OF TERMS

1.7 CHAPTER LAYOUT

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Use cases

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Corrective

Preventive

Adaptive

CHAPTER FIVE

SUMMARY AND CONCLUSION

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SUMMARY

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CONCLUSION