Literature Review

1.A Project Report on Data Aggregation and analysis with Python in the field of Renewable Energy Systems MASTER OF ENGINEERING IN RENEWABLE ENERGY SYSTEMS (October 2020)

As each and every sector of the market is growing, data is building up day by day, we need to keep the record of the data which can be helpful for the analytics and evaluation. Now we don't have data in gigabyte or terabyte but in zetta byte and petabyte and this data can not be handled with the day to day software such as Excel or Matlab. Therefore in this report we will be dealing with large data sets with the high-level programming language 'Python'. The main goal of this project is to aggregate and analyze the data collected from the different data sources available on the internet. This project mainly focuses on the usage of the python programming language in the field of renewable energy. This language has not only it's application in the field of just analyzing the data but also for the prediction of the upcoming scenarios in the energy field. The purpose of using this specific language is due to its versatility, vast libraries (Pandas, Numpy, Matplotlib, etc.), speed limitations, and ease of learning. We will be analyzing large energy data sets in this project which can not be easily analyzed in other tools as compared to python. Python does not have it's limitation to only data analytics but also in many other fields such as Artificial intelligence, Machine learning, and many more.

2. Big data in healthcare: management, analysis and future prospects(June 2019)

'Big data' is massive amounts of information that can work wonders. It has become a topic of special interest for the past two decades because of a great potential that is hidden in it. Various public and private sector industries generate, store, and analyze big data with an aim to improve the services they provide. In the healthcare industry, various sources for big data include hospital records, medical records of patients,

results of medical examinations, and devices that are a part of internet of things. Biomedical research also generates a significant portion of big data relevant to public healthcare. This data requires proper management and analysis in order to derive meaningful information. Otherwise, seeking solution by analyzing big data quickly becomes comparable to finding a needle in the haystack. There are various challenges associated with each step of handling big data which can only be surpassed by using high-end computing solutions for big data analysis. That is why, to provide relevant solutions for improving public health, healthcare providers are required to be fully equipped with appropriate infrastructure to systematically generate and analyze big data. An efficient management, analysis, and interpretation of big data can change the game by opening new avenues for modern healthcare. That is exactly why various industries, including the healthcare industry, are taking vigorous steps to convert this potential into better services and financial advantages. With a strong integration of biomedical and healthcare data, modern healthcare organizations can possibly revolutionize the medical therapies and personalized medicine.

3. Big Data Analytics for Healthcare Industry: Impact, Applications, and Tools(March 2019)

In recent years, huge amounts of structured, unstructured, and semi-structured data have been generated by various institutions around the world and, collectively, this heterogeneous data is referred to as big data. The health industry sector has been confronted by the need to manage the big data being produced by various sources, which are well known for producing high volumes of heterogeneous data. Various big-data analytics tools and techniques have been developed for handling these massive amounts of data, in the healthcare sector. In this paper, we discuss the impact of big data in healthcare, and various tools available in the Hadoop ecosystem for handling it. We also explore the conceptual architecture of big data analytics for healthcare

which involves the data gathering history of different branches, the genome database, electronic health records, text/imagery, and clinical decisions support system.

4. <u>**Analysis of Research in Healthcare Data Analytics**</u> (June 2016)

                The main aim of that paper is to provide a deep analysis on the research field of healthcare data analytics. This paper is analyzing the previous studies and works in this research area, as well as highlighting some of guidelines and gaps. This study has used seven popular databases and selected most relevant papers, in order to conduct this paper. The paper has listed some data analytics tools and techniques that have been used to improve healthcare performance in many areas such as: medical operations, reports, decision making, and prediction and prevention system. Moreover, the systematic review has showed an interesting demographic of fields of publication, research approaches, as well as outlined some of the possible reasons and issues associated with healthcare data analytics, based on geographical distribution theme.