**Analysis Of world Population using Machine learning**

**Project Report**

Mini Project (IAI751)

Degree

**BACHELOR OF TECHNOLOGY (CS&E-AI)**

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**DECLARATION**

We hereby declare that this Project Report titled ‘**Analysis Of world Population using Machine learning’** submitted by us and approved by our project guide, Faculty of Engineering & Computing Sciences. Teerthanker Mahaveer University, Moradabad, is a bonafide work undertaken by us and it is not submitted to any other University or Institution for the award of any degree diploma / certificate or published any time before.

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**B: Entity Relationship Diagram (ERD)**

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# Project Title

**Analysis Of world Population using Machine learning**

# Problem Statement

* Population growth is the increase in the number of humans on Earth. For most of human history our population size was relatively stable
* More people inevitably put more demands on the planet. More people require more food, water, sanitation, homes, public services, and amenities
* As we all know Population is increasing on regular basis which impact towards Country Directly.

### Population explosion and population deficiency Both impact bad on country growth.

### This need to be considered seriously, Analysis of it will help country in many ways.

**Effects of Population Explosion**

* Problem of Investment Needed.
* Problem of Capital Formation.
* Effect on per capita Income.
* Effect on food Problem.
* Problem of Unemployment.
* Low Standard Of living.

# Project Description

In 2011, the world reached a population of 7 billion. This year, the number will hit 8 billion, prompting the attendant responses. Some will marvel at the advancements in health that have extended lifespans, reduced maternal mortality and child mortality and given rise to vaccine development in record time. Others will tout technological innovations that have eased our lives and connected us more than ever. Still others will herald gains in gender equality.

But progress is not universal, throwing inequality into razor-sharp relief. The same concerns and challenges raised 11 years ago remain or have worsened: Climate change, violence, discrimination. The world reached a particularly grim milestone in May: More than 100 million forcibly displaced worldwide.

## Scope of the Work

* This project work for analysis of current population and for the prediction of future population on some predefined features.
* In this project model is built on the basis of some specified features or the past population of same places.
* It will not give accurate result but helps in getting the idea of future population.

## Project Modules

We Divided Project in Three Modules

* **Module-1**

Data Selection

Data Cleaning

* **Module-2**

Feature Selection

Model Training

* **Module-3**

Model Evaluation

# Implementation Methodology

Module 1

* Data Selection

Data selection is defined as the process of determining the appropriate data type and source, as well as suitable instruments to collect data. Data selection precedes the actual practice of data collection.

* Data Cleaning

Data cleaning is one of the important parts of machine learning. It plays a significant part in building a model. It surely isn’t the fanciest part of machine learning and at the same time, there aren’t any hidden tricks or secrets to uncover. However, the success or failure of a project relies on proper data cleaning

Module 2

### Feature Selection

### Feature Selection is the method of reducing the input variable to your model by using only relevant data and getting rid of noise in data.

### It is the process of automatically choosing relevant features for your machine learning model based on the type of problem you are trying to solve. We do this by including or excluding important features without changing them. It helps in cutting down the noise in our data and reducing the size of our input data.

### Model Training

### A machine learning training model is a process in which a machine learning (ML) algorithm is fed with sufficient training data to learn from.

### ML models can be trained to benefit manufacturing processes in several ways. The ability of ML models to process large volumes of data can help manufacturers identify anomalies and test correlations while searching for patterns across the data feed. It can equip manufacturers with predictive maintenance capabilities and minimize planned and unplanned downtime.

### Module 3

### Model Evaluation

### Model evaluation is the process of using different evaluation metrics to understand a machine learning model’s performance, as well as its strengths and weaknesses. Model evaluation is important to assess the efficacy of a model during initial research phases, and it also plays a role in model monitoring.

### To understand if your model(s) is working well with new data, you can leverage a number of evaluation metrics.

### Accuracy

### Precision

### Confusion Matrix

### Log-Loss

### AUC(Area under Curve)

# Technologies to be used

## Software Platform

* Python 3.6.8
* Jupyter Notebook from Anaconda 3 (IDE)
* Operating System (Windows 10)

## Hardware Platform

* RAM – Minimum 8GB
* Hard Disk – Minimum 32GB
* Processor i-5, AMD 3 upwards

## Tools Used

* Pandas
* TensorFlow
* Date and Time
* Numpy
* Scipy
* Scikit-Learn
* Matplotlib

# Advantages of this Project

There are some advantages of this projects such as:

* This system helps country in analyzing the population of their place, which leads to guide then taking decisions towards country.
* Population directly give impact towards economy of country; trough one can predict future scenarios and take decisions accordingly.
* Population Analysis can be used as a tool to provide information on possible scenarios of future population and, namely, to support decision-making processes in diverse socio-economic areas, such as, higher education institutional network planning, both in public and private sectors.
* Population Analysis can be used as a tool to provide information on possible scenarios of future dimension and age and sex composition of population, and, therefore, to support decision-making processes in diverse socio-economic areas, such as, higher education institutional network planning, namely in a context of a country that, like Portugal, with a young population still characterized by very low levels of education.

# Future Scope and further enhancement of the Project

In future we will deploy this project on internet so it can be use by society to analysis the population on various parameters. Nowadays population become the important factor of any country because it effects the economy of the country. This application gives you the statistical analysis of the population through which we can control the population growth of the country and also, we can analysis the state-wise population rate of any country.

Further Enhancement

# Conclusion

* This Analysis Will help People to know more about future population rate of a particular country.
* It helps a country to take better decisions for future economy.
* Through this one can easily Detect What will be the rate of population in 5years span**.**

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**Annexure A**

**Data Flow Diagram (DFD)**

**(Mandatory)**

**Annexure B**

**Entity-Relationship Diagram (ERD)**

**(Mandatory)**

**Annexure C**

**Use-Case Diagram (UCD)**

**(Optional)**

**Annexure D**

**Screen Shots**