CSI-LNMIIT, TEAM S21

Crime Rate Detection

Data Analytics Project

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AIM:

To compare between district-wise crime committed in India with factors like education and poverty and analyse the effect of the same. This may help in proper governance and funding on education and living standards, and thus reduce crimes.

PREREQUISTES:

1. Python
    - 'Learn Python' course on Codecademy
    - Python Workshop organized by CSI
2. Basic Data Analytics
    - Data Analytics (Beginner) course on Udacity

PYTHON CONCEPTS USED:

1. Basic input-output and mathematical operations
2. Loops
3. Function Definition
4. Inbuilt functions
5. Arrays, Lists and Dictionaries
6. Graph Plotting using Python Functions
7. Python Libraries like Matplotlib, Scipy, Pandas and Numpy.

WORKING PLATFORM:

Spyder (Python 2.7). Anaconda Distributer.

Spyder is an interactive Python development environment providing MATLAB-like features like advanced editing, interactive testing, debugging and introspection features in a simple and light-weighted software. Additionally, Spyder is a numerical computing environment thanks to the support of IPython and popular Python libraries such as NumPy, SciPy, or matplotlib.

DATA COLLECTION:

1. Crime Data CSV file: kaggle *(https://www.kaggle.com/rajanand/crime-in-india)*
2. Education Data CSV file: kaggle *(https://www.kaggle.com/taylor1989/india-s-education)*
3. Poverty Data CSV file: data.gov *(https://data.gov.in/catalog/below-poverty-line-india)*

CONCEPTS OF DATA SCIENCE USED:

Steps of Data Analysis:

1. Question Framing: Deciding upon the problem to research upon
2. Data Wrangling: The process of acquiring and cleansing of the data in order to have a refined and precise data set.
3. Data Exploration: Getting familiar with the data set and finding patterns in data
4. Conclusion: Find and establish relations based upon the outcomes
5. Communication: Publish the findings for use.

WORK DONE:

1. Question framed
2. Data acquired
3. Data refined and arranged in list via Python programming