3. Time-Series Data Visualization

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Goal

- Create a time-series visualisation of local monthly temperatures over a few years.

Data Source

- URL: https://data.telengana.gov.in/dataset/telengana-temperature-data-2013-2017

Data Acquisition

- You may download the Maximum and Minimum data sets from the source URL mentioned above or use the following steps to get the datasets as Pandas data frames.
    - (see data.telangana.gov.in/dataset/62a1cc18-7613-460b-a0b1-4b71c78fa1ce/api)
- Use Python API requests and query the metadata from the above-mentioned URL as:
    - r=requests.get("https://data.telangana.gov.in/api/1/metastore/schemas/dataset/items/62a1cc18-7613-460b-a0b1-4b71c78fa1ce&quot")
    - dataInfo = r.json()
- Use the two URLs listed in the metadata in the distributions item array of dataInfo to read_csv as:
    - df_max = pd.read_csv(dataInfo["distribution"][0]["downloadURL"])
    - df_min = pd.read_csv(dataInfo["distribution"][1]["downloadURL"]).

Data Preparation and Cleaning Component

- Extract the data rows corresponding to Medchal district and Kapra Mandal from the data frames.
- You may combine the two rows into a single data frame if it helps in creating the visualisation.
- Use Pandas transpose (T) operation to transpose the table columns into rows and

rows into columns.

- Convert the months and year data to Pandas Datetime format. (to be discussed in Day 2 of week 4 practice session)

Data Visualization

- Create line plots using either of plotly.express and seaborn to show the minimum and maximum temperatures for the months and years available in the dataset.

Sample Image