AOD pre tp(2000-2019)

October 20, 2019

```python
[3]: import pandas as pd
     AOD_raw  = pd.read_csv('./data_tp/Taipei_CWB.csv') #, encoding="utf-8"
     AOD_raw.shape
```

```
[3]: (1911, 1)
```

```python
[4]: AOD_raw.columns
```

```
[4]: Index(['AERONET Version 3; '], dtype='object')
```

```python
[11]: AODr = [AOD_raw['AERONET Version 3; '][i].split(',') for i in range(AOD_raw.
      ↪shape[0])]
      #AOD[5]
```

```python
[27]: AOD = AODr[6:] #0=location 1=date 2=time 3=dayofyear 37(4:40), all82, 35, 6
      #AOD18[0][4:40]
      AODd = {}
      for i in range(len(AOD)):
          day = AOD[i][0][0:2]
        #print(day)
          month = AOD[i][0][3:5]
          year = AOD[i][0][6:10]
          date = str(year) + '/' + str(month) + '/' + str(day)
          AODd[date] = [float(AOD[i][k]) for k in range(3, 41)] #take 3-40 as feature
```

```python
[29]: n_feature = 41-3
      avgs = []
      for i in range(n_feature):
          summation = 0.0
          cnt = 0.0
          for key in AODd:
              if not AODd[key][i] == -999.:
                  cnt += 1
                  summation +=  AODd[key][i]
          avg = summation/cnt if cnt != 0 else 0
          avgs.append(avg)
          for key in AODd:
```

```
        if AODd[key][i] == -999.:
            AODd[key][i] = avg
```

```
[39]: import csv
      csv_file = "./data_tp/AOD.csv"
      csv_columns = ['date', 'data']

      try:
          with open(csv_file, 'w') as csvfile:
              writer = csv.writer(csvfile)
              writer.writerow(csv_columns)
              for key, val in AODd.items():
                  writer.writerow([key,val])
      except IOError:
          print("I/O error")
```

```
[41]: AODd.keys()
```

```
[41]: dict_keys(['2000/03/30', '2000/04/09', '2002/03/20', '2002/03/21', '2002/03/22',
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