Functionalitati

* Predicitia meteo
* Destectarea de diferente in urmatoarea perioada la nivel de termperatura pentru posibilitatea de aparite a unor probleme de sanatate

Related Work

* <https://wcd.copernicus.org/articles/3/113/2022/wcd-3-113-2022.pdf>
* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8619234/
* https://karger.com/cee/article-pdf/10/1/1/2360771/000505122.pdf

Algoritm

* Se folosesm modele ARIMA (autoregressive integrated moving average)
* Pentru evaluare se foloseste parametrul AIC(Akaike information criterion) ce prezice numarul de informatie pierduta de catre model
* Modelul ARIMA se foloseste de 3 parametrii principalii p (number of time lags),d (the number of times the data have had past values subtracted),*q* (the order of the [moving-average-model l](https://en.wikipedia.org/wiki/Moving-average_model))
* Dupa rularea cu fiecare posibilitate pentr acesti paramtrii cele mai bune 2 variante au ramas (2,1,5) si (2,1,6)
* Am ales modelul (2,1,5) pentru un q mai mic

Results of (2,1,5) model:

Dep. Variable: AverageTemperature No. Observations: 248

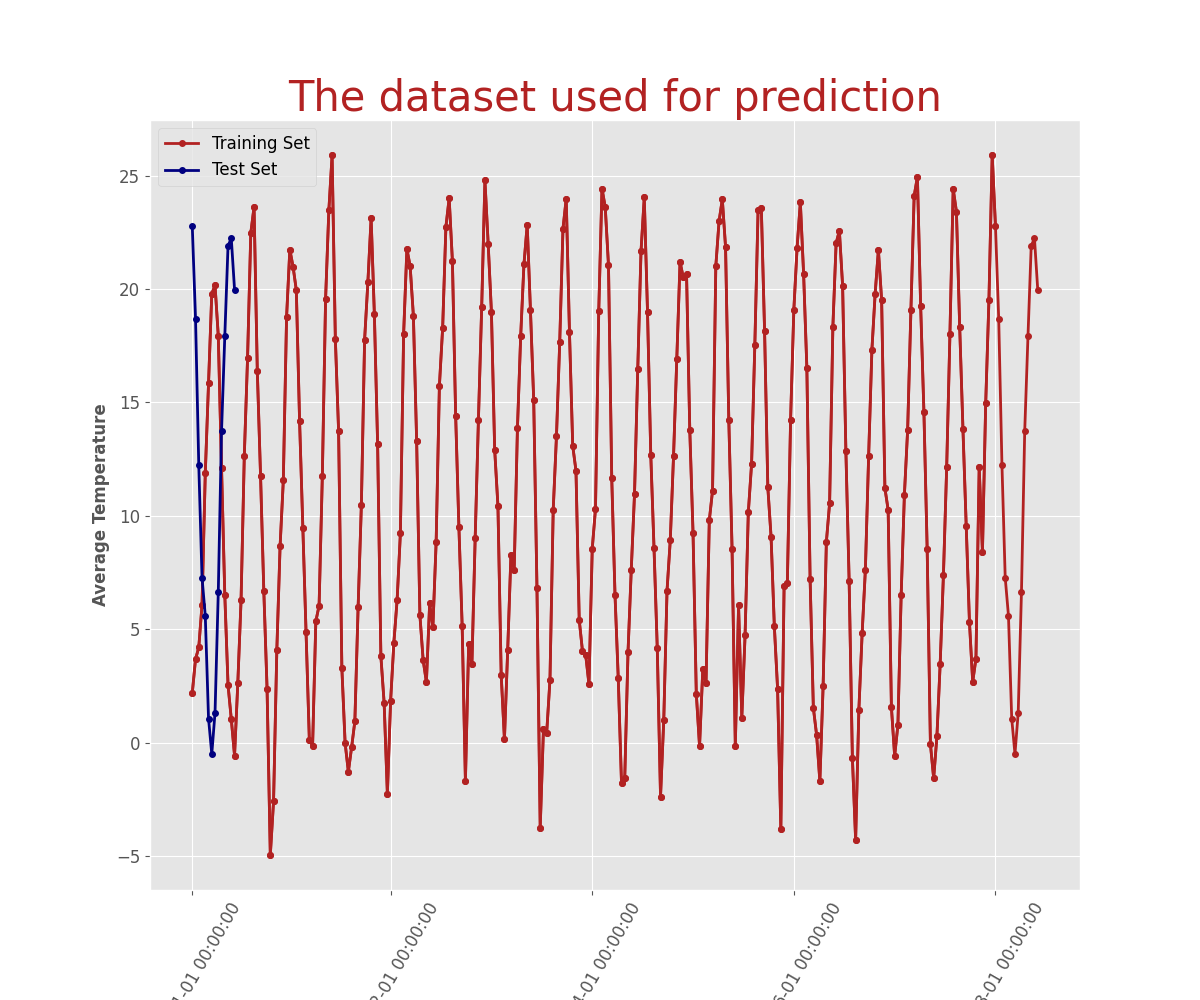
Model: SARIMAX(2, 1, 6) Log Likelihood -535.498

AIC 1088.996

BIC 1120.581

HQIC 1101.713

* Impartirea datelor a avut loc cu un split de 95(antrenare) 5(test)
* Datasetul folosit are date din 1793 pana in 2013,si are date despre temperaturile medii din majoritatea oraselor mari, dar momentan ne-am folosit de perioada 1992-2013



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