1. Introduction :

Available Datasets:
All the datasets used in this thesis are reported in the folder “src/Datasets”

dataset : Finnmark, Hordaland, Nordland, Troms, Norway, Norway0714, More_og_Romsdal, Sor-Trondelag, Sogn_og_Fjordane, Rogaland_og_Agder,

parameter: cages, localities, numberSalmon, feedConsumption, restock, withdrawals, biomass
- if the dataset is ‘Norway’ or ‘Norway074’ also “price” as a parameter
- if the dataset is one of the county reported above also “seaAverageTemp” as a parameter.

Available Evidences:

“src/Results”: Contains all the analysis results provided by SIA and MIA systems. Such as graphics, coefficients values,..

“src/Results_Maps”: Contains the results provided by the Map system, in particular about all the parameter available in “Datasets/countiesAverages.csv”.

“src/Result_Forecast”: Contains the evaluation MAPE results, future real values, prediction values and graphics about the parameter “feed Consumption” for a group of datasets (Troms, Finnmark, Hordaland, Nordland, Norway0714)

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2. How to use the Python systems:

SIA.py - Single Input Analyzer
It allows to do an initial analysis about a specific parameter of a dataset.
How to execute:

python SIA.py *dataset parameter*

Current examples:

```
python SIA.py Norway cages
python SIA.py Troms averageTemp
python SIA.py Troms localities
```

MIA.py - Multiple Input Analyzer
It allows to do an analysis between all the different parameters of a dataset.
It’s possible to execute this system on a dataset only if has already been executed the SIA system for each single parameter of the dataset.
How to execute:

python MIA.py *dataset*

Current examples:

```
python MIA.py Norway
python MIA.py Troms
python MIA.py Finnmark
```

Map.py – Cartographic visualization on Norway's territory
It allows to do display a specific parameter value about each single Norwegian county using a map. In this case the parameter has to be contained in the dataset "Datasets/countiesAverages.csv".
How to execute:

python Map.py *parameter*

Current examples:

python Map.py averageTemp
python Map.py biomass
python Map.py cages/localities

ARIMA-Evaluate.py – Evaluation system for ARIMA model configurations
It allows to test different configurations of an ARIMA model on a specific dataset's parameter, and then provide the accuracy of each configuration reporting the corresponding MAPE value.
How to execute:

python ARIMA-Evaluate.py *dataset parameter*

Current examples:

python ARIMA-Evaluate.py Norway cages
python ARIMA-Evaluate.py Troms localities
python ARIMA-Evaluate.py Finnmark averageSeaTemp

ARIMA-Future.py – Prediction system using ARIMA model
It allows to calculate predictions of future values about a dataset's parameter. The system's inputs are the followings:
- N : Desired number of predictions in the future (number of months).
- P, D, Q : Values for the specific ARIMA order, more details inside the report.

How to execute:

python ARIMA-Evaluate.py *dataset parameter N P D Q*

Current examples:

python ARIMA-Evaluate.py Norway cages
python ARIMA-Evaluate.py Troms localities
python ARIMA-Evaluate.py Finnmark averageSeaTemp
