

approximate_bayesian_computation

Parameters

cm_name: abc_10
dataframe_in: data_missing_10
description: Approximate Bayesian Computation for Time Series
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: approximate_bayesian_computation
name: approximate_bayesian_computation
parameters:
 algorithm: pydream
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_chains: 3
 n_draws: 20000
 n_iterations: 100
 nfe: 15000
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - 10
 seed: 10
report_parameters: {}
running_time: 447213.775783062
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with solutions:

	Manufacturing_Time	Distance
0	1.0	13.647973

with the most optimal solution:

	Manufacturing_Time	Distance
0	1.0	13.647973

with an acceptance percentage of 0.0%

approximate_bayesian_computation

Parameters

cm_name: abc_25
dataframe_in: data_missing_25
description: Approximate Bayesian Computation for Time Series
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: approximate_bayesian_computation
name: approximate_bayesian_computation
parameters:
 algorithm: pydream
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_chains: 3
 n_draws: 20000
 n_iterations: 100
 nfe: 15000
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - 10
 seed: 10
report_parameters: {}
running_time: 443125.8531191349
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with solutions:

	Manufacturing_Time	Distance
0	1.000000	14.702870
1	7.168238	19.793742
2	7.941886	20.855439

with the most optimal solution:

	Manufacturing_Time	Distance
0	1.0	14.70287

with an acceptance percentage of 0.0016674170043186102%

approximate_bayesian_computation

Parameters

cm_name: abc_50
dataframe_in: data_missing_50
description: Approximate Bayesian Computation for Time Series
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: approximate_bayesian_computation
name: approximate_bayesian_computation
parameters:
 algorithm: pydream
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_chains: 3
 n_draws: 20000
 n_iterations: 100
 nfe: 15000
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - 10
 seed: 10
report_parameters: {}
running_time: 446186.91250395775
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with solutions:

	Manufacturing_Time	Distance
0	1.0	19.343444

with the most optimal solution:

	Manufacturing_Time	Distance
0	1.0	19.343444

with an acceptance percentage of 0.0%

approximate_bayesian_computation

Parameters

cm_name: abc_75
dataframe_in: data_missing_75
description: Approximate Bayesian Computation for Time Series
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: approximate_bayesian_computation
name: approximate_bayesian_computation
parameters:
 algorithm: pydream
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_chains: 3
 n_draws: 20000
 n_iterations: 100
 nfe: 15000
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - 10
 seed: 10
report_parameters: {}
running_time: 446800.6074209213
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with solutions:

	Manufacturing_Time	Distance
0	1.0	26.405209

with the most optimal solution:

	Manufacturing_Time	Distance
0	1.0	26.405209

with an acceptance percentage of 0.0%

approximate_bayesian_computation

Parameters

cm_name: abc_90
dataframe_in: data_missing_90
description: Approximate Bayesian Computation for Time Series
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: approximate_bayesian_computation
name: approximate_bayesian_computation
parameters:
 algorithm: pydream
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_chains: 3
 n_draws: 20000
 n_iterations: 100
 nfe: 15000
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - 10
 seed: 10
report_parameters: {}
running_time: 450007.0537612438
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with solutions:

	Manufacturing_Time	Distance
0	1.000000	17.523538
1	7.941886	21.232773

with the most optimal solution:

	Manufacturing_Time	Distance
0	1.0	17.523538

with an acceptance percentage of 0.0016674170043186102%

genetic_algorithm

```

cm_name: ga_10
dataframe_in: data_missing_10
description: Genetic Algorithm for optimization of timeseries
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: genetic_algorithm
name: genetic_algorithm
parameters:
  algorithm: epsNSGAI1
  decision_variables:
    - Manufacturing_Time
  epsilons:
    - 1
  n_draws: 20000
  n_iterations: 100
  nfe: 15000
  objectives:
    - Manufacturer
    - Export_Port
    - Transit_Port
    - Import_Port
    - Wholesales_Distributor
    - Retailer_Amsterdam
    - Retailer_Utrecht
    - Retailer_Venlo
  population_size: 100
  ranges_variables:
    - - 1
    - 10
  seed: 10
report_parameters: {}
running_time: 360899.7000787258
type: calibrationmodel
version: 1.0.0

```

Results

Summary CalibrationModel with solutions

[illegible]

Parameters

```

cm_name: ga_25
dataframe_in: data_missing_25
description: Genetic Algorithm for optimization of timeseries
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: genetic_algorithm
name: genetic_algorithm
parameters:
  algorithm: epsNSGAI1
  decision_variables:
    - Manufacturing_Time
  epsilons:
    - 1
  n_draws: 20000
  n_iterations: 100
  nfe: 15000
  objectives:
    - Manufacturer
    - Export_Port
    - Transit_Port
    - Import_Port
    - Wholesales_Distributor
    - Retailer_Amsterdam
    - Retailer_Utrecht
    - Retailer_Venlo
  population_size: 100
  ranges_variables:
    - - 1
    - 10
  seed: 10
report_parameters: {}
running_time: 362225.00012660027
type: calibrationmodel
version: 1.0.0

```

Results

Summary CalibrationModel with solutions

Manufacturing_Time	Manufacturer	Export_Port	Transit_Port	Import_Port	Wholesales_Distributor
Retailer_Amsterdam	Retailer_Utrecht	Retailer_Venlo			
0	2.406837	2.695601	2.695601	2.695601	2.695601
2.695601	2.695601				

[illegible]

genetic_algorithm

```

cm_name: ga_50
dataframe_in: data_missing_50
description: Genetic Algorithm for optimization of timeseries
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: genetic_algorithm
name: genetic_algorithm
parameters:
  algorithm: epsNSGAI1
  decision_variables:
    - Manufacturing_Time
  epsilons:
    - 1
  n_draws: 20000
  n_iterations: 100
  nfe: 15000
  objectives:
    - Manufacturer
    - Export_Port
    - Transit_Port
    - Import_Port
    - Wholesales_Distributor
    - Retailer_Amsterdam
    - Retailer_Utrecht
    - Retailer_Venlo
  population_size: 100
  ranges_variables:
    - - 1
    - 10
  seed: 10
report_parameters: {}
running_time: 356012.3840830326
type: calibrationmodel
version: 1.0.0

```

Results

Summary CalibrationModel with solutions

Manufacturing_Time	Manufacturer	Export_Port	Transit_Port	Import_Port	Wholesales_Distributor
Retailer_Amsterdam	Retailer_Utrecht	Retailer_Venlo			
0	2.464893	4.417699	4.417699	4.417699	4.417699
4.417699	4.417699				

[illegible]

Parameters

```

cm_name: ga_75
dataframe_in: data_missing_75
description: Genetic Algorithm for optimization of timeseries
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: genetic_algorithm
name: genetic_algorithm
parameters:
  algorithm: epsNSGAI1
  decision_variables:
    - Manufacturing_Time
  epsilons:
    - 1
  n_draws: 20000
  n_iterations: 100
  nfe: 15000
  objectives:
    - Manufacturer
    - Export_Port
    - Transit_Port
    - Import_Port
    - Wholesales_Distributor
    - Retailer_Amsterdam
    - Retailer_Utrecht
    - Retailer_Venlo
  population_size: 100
  ranges_variables:
    - - 1
    - 10
  seed: 10
report_parameters: {}
running_time: 368771.25518870354
type: calibrationmodel
version: 1.0.0

```

Results

Summary CalibrationModel with solutions

[illegible]

Parameters

```

cm_name: ga_90
dataframe_in: data_missing_90
description: Genetic Algorithm for optimization of timeseries
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: genetic_algorithm
name: genetic_algorithm
parameters:
  algorithm: epsNSGAI1
  decision_variables:
    - Manufacturing_Time
  epsilons:
    - 1
  n_draws: 20000
  n_iterations: 100
  nfe: 15000
  objectives:
    - Manufacturer
    - Export_Port
    - Transit_Port
    - Import_Port
    - Wholesales_Distributor
    - Retailer_Amsterdam
    - Retailer_Utrecht
    - Retailer_Venlo
  population_size: 100
  ranges_variables:
    - - 1
    - 10
  seed: 10
report_parameters: {}
running_time: 365690.7161886692
type: calibrationmodel
version: 1.0.0

```

Results

Summary CalibrationModel with solutions

	Manufacturing_Time	Manufacturer	Export_Port	Transit_Port	Import_Port	Wholesales_Distributor
Retailer_Amsterdam		Retailer_Utrecht	Retailer_Venlo			
0	2.372957	4.399539	4.399539	4.399539	4.399539	4.399539
4.399539	4.399539					

[illegible]

powell_method

Parameters

cm_name: powell_10
dataframe_in: data_missing_10
description: Powell Method for optimization of timeseries with simulation
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: powell_method
name: powell_method
parameters:
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_draws: 20000
 n_iterations: 100
 nfe: 1500
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - - 10
 seed: 10
report_parameters: {}
running_time: 1151.7091755867004
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with most optimal solution:

	Manufacturing_Time	Distance
0	2.833405	5.055331

powell_method

Parameters

cm_name: powell_25
dataframe_in: data_missing_25
description: Powell Method for optimization of timeseries with simulation
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: powell_method
name: powell_method
parameters:
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_draws: 20000
 n_iterations: 100
 nfe: 1500
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - - 10
 seed: 10
report_parameters: {}
running_time: 1276.3499791622162
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with most optimal solution:

	Manufacturing_Time	Distance
0	3.124612	6.25849

powell_method

Parameters

cm_name: powell_50
dataframe_in: data_missing_50
description: Powell Method for optimization of timeseries with simulation
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: powell_method
name: powell_method
parameters:
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_draws: 20000
 n_iterations: 100
 nfe: 1500
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - - 10
 seed: 10
report_parameters: {}
running_time: 1274.5416638851166
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with most optimal solution:

	Manufacturing_Time	Distance
0	2.778099	8.255521

powell_method

Parameters

cm_name: powell_75
dataframe_in: data_missing_75
description: Powell Method for optimization of timeseries with simulation
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: powell_method
name: powell_method
parameters:
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_draws: 20000
 n_iterations: 100
 nfe: 1500
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - - 10
 seed: 10
report_parameters: {}
running_time: 2076.4872789382935
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with most optimal solution:

	Manufacturing_Time	Distance
0	6.562345	27.773448

powell_method

Parameters

cm_name: powell_90
dataframe_in: data_missing_90
description: Powell Method for optimization of timeseries with simulation
diff_func_name: manhattan_metrics
diff_func_parameters: {}
model_method: powell_method
name: powell_method
parameters:
 decision_variables:
 - Manufacturing_Time
 epsilons:
 - 1
 n_draws: 20000
 n_iterations: 100
 nfe: 1500
 objectives:
 - Manufacturer
 - Export_Port
 - Transit_Port
 - Import_Port
 - Wholesales_Distributor
 - Retailer_Amsterdam
 - Retailer_Utrecht
 - Retailer_Venlo
 population_size: 100
 ranges_variables:
 - - 1
 - - 10
 seed: 10
report_parameters: {}
running_time: 1613.257712841034
type: calibrationmodel
version: 1.0.0

Results

Summary CalibrationModel with most optimal solution:

	Manufacturing_Time	Distance
0	2.66366	6.177385

Summary

Model Name	Model Method	Score	Difference Function	Dataframe	Duration	Solution Params
powell_90	powell_method	0.98	manhattan_metrics	data_missing_90	1613.258 sec	{'Manufacturing_Time': 2.663659967058259}
powell_75	powell_method	0.55	manhattan_metrics	data_missing_75	2076.487 sec	{'Manufacturing_Time': 6.56234488000237}
powell_50	powell_method	0.97	manhattan_metrics	data_missing_50	1274.542 sec	{'Manufacturing_Time': 2.7780986342212537}
powell_25	powell_method	0.93	manhattan_metrics	data_missing_25	1276.350 sec	{'Manufacturing_Time': 3.1246117974981074}
powell_10	powell_method	0.96	manhattan_metrics	data_missing_10	1151.709 sec	{'Manufacturing_Time': 2.83340509606268}
ga_90	genetic_algorithm	0.99	manhattan_metrics	data_missing_90	365690.716 sec	{'Manufacturing_Time': 2.3729568886118075}
ga_75	genetic_algorithm	0.99	manhattan_metrics	data_missing_75	368771.255 sec	{'Manufacturing_Time': 2.438921883953461}
ga_50	genetic_algorithm	1.0	manhattan_metrics	data_missing_50	356012.384 sec	{'Manufacturing_Time': 2.464893439263313}
ga_25	genetic_algorithm	0.99	manhattan_metrics	data_missing_25	362225.000 sec	{'Manufacturing_Time': 2.4068371151656587}
ga_10	genetic_algorithm	0.99	manhattan_metrics	data_missing_10	360899.700 sec	{'Manufacturing_Time': 2.4267530739025123}
abc_90	approximate_bayesian_computation	0.83	manhattan_metrics	data_missing_90	450007.054 sec	{'Manufacturing_Time': 1.0}
abc_75	approximate_bayesian_computation	0.83	manhattan_metrics	data_missing_75	446800.607 sec	{'Manufacturing_Time': 1.0}
abc_50	approximate_bayesian_computation	0.83	manhattan_metrics	data_missing_50	446186.913 sec	{'Manufacturing_Time': 1.0}
abc_25	approximate_bayesian_computation	0.83	manhattan_metrics	data_missing_25	443125.853 sec	{'Manufacturing_Time': 1.0}
abc_10	approximate_bayesian_computation	0.83	manhattan_metrics	data_missing_10	447213.776 sec	{'Manufacturing_Time': 1.0}