**INFORME DE RESULTADOS**

El periodo de predicción va a ser de 2020-01 a 2021-04. Todas las métricas globales van a ser evaluadas en este proceso.

**BASELINE**

Lo primero es la realización de un modelo baseline a partir del cual mejorar los subsecuentes posibles modelos.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| MODELO | MAE | STD(MAE) | MAPE | STD(MAPE) | RMSE | % TREND |
| BASELINE | **6.712** | **7.191** | **47.409** | **460.138** | **11.672** | **74.79** |

**REGRESIÓN LINEAL**

Variables\_1 🡪 Todas menos Prevision\_Demanda, Prevision\_Eol\_Fotov y Festivos Regionales

Variables\_2 🡪 Todas menos Prevision\_Demanda, Prevision\_Eol\_Fotov y Festivos Regionales, pero añadiendo el lag de 24 horas

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| VARIABLES | Rolling | MAE | STD(MAE) | MAPE | STD(MAPE) | RMSE | % TREND |
| Todas | No | 8.01 | 7.879 | 100.623 | 1023.558 | 11.235 | 80.77 |
| Todas | 7 | 9.204 | 9.206 | 72.201 | 684.128 | 13.017 | 79.73 |
| Todas | 14 | 8.82 | 10.553 | 85.582 | 877.875 | 13.753 | 80.22 |
| Todas | 21 | 7.956 | 8.682 | 71.465 | 730.388 | 11.776 | 80.91 |
| Todas | 30 | 7.173 | 7.274 | 62.598 | 567.97 | 10.216 | 81.09 |
| Todas | 60 | 7.274 | 6.995 | 73.024 | 694.914 | 10.091 | 81.03 |
| Todas | 90 | 7.687 | 7.36 | 82.468 | 824.796 | 10.642 | 80.75 |
| Todas | 150 | 7.687 | 7.532 | 86.329 | 875.543 | 10.762 | 80.29 |
| Todas | 220 | 7.904 | 7.516 | 89.838 | 910.173 | 10.907 | 80.03 |
| Todas | 365 | 7.954 | 7.612 | 91.652 | 940.284 | 11.009 | 80.66 |
| Variables1 | 30 | 7.068 | 7.118 | 64.704 | 615.574 | 10.031 | 81.38 |
| Variables2 | 60 | 6.126 | 5.918 | 49.769 | 428.982 | 8.518 | 81.15 |
| Variables2 | 150 | 5.978 | 5.827 | 58.183 | 543.753 | 8.348 | 80.13 |
| Variables2 | 365 | 5.939 | 5.901 | 57.251 | 539.431 | 8.327 | 80.21 |

**PCR (Principal Components Regression)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| VARIABLES | Rolling | N components | MAE | STD(MAE) | MAPE | STD(MAPE) | RMSE | % TREND |
| Todas | No | 30 | 8.307 | 7.948 | 102.42 | 1029.124 | 11.497 | 78.55 |
| Todas | 7 | 30 | 8.654 | 8.703 | 79.134 | 803.27 | 12.273 | 80.31 |
| Todas | 30 | 30 | 7.341 | 7.184 | 65.654 | 614.913 | 10.271 | 80.94 |
| Variables1 | 30 | 30 | 7.101 | 7.007 | 63.894 | 603.561 | 9.975 | 81.01 |
| Variables2 | 60 | 30 | 6.538 | 6.234 | 64.59 | 613.891 | 9.033 | 81.21 |
| Variables2 | 30 | 32 | 6.298 | 6.463 | 50.234 | 465.645 | 9.024 | 81.07 |
| Variables2 | 60 | 32 | 6.124 | 5.918 | 49.784 | 429.124 | 8.516 | 81.16 |

**REGRESIÓN CON REGULARIZACIÓN (RIDGE, LASSO Y ELASTICNET)**

**https://www.cienciadedatos.net/documentos/py14-ridge-lasso-elastic-net-python.html**

**RANDOM FOREST**

**SARIMA SIN VARIABLES EXÓGENAS**

**SARIMA CON VARIABLES EXÓGENAS**

**LSTM, CNN, DENSE**

**LIGHT BOOST**

**XGBOOST**

**HIERARCHICAL TIME SERIES?**

**HOLT-WINTERS**

**COMBINACIONES DE PREDICCIONES ENTRE VARIAS POSIBILIDADES**

**STACKED MODELS**