gbm B Rel. Val. RMSE: -1 Validation Rel. Val. RMSE: -1 Allowable RMSE: 38	Model Predicting Training Dataset GBM_grid_1_AutoML_20210414_134953_model_1GROUP-B 600 400 200 100 300	Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134953_model_1GROUP-B	600 - 500 - 400 - 300 - 200 - 100 -	Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134953_model_1GROUP-B	Model Predicting Holdout Time Series GBM_grid_1_AutoML_20210414_134953_model_1GROUP-B 500 450 400 350 300	Residual Plot GBM_grid_1_AutoML_20210414_134953_model_1GROUP-B 100 - 50 - 050100 -
drf B Rel. Val. RMSE: 12 Validation Rel. Val. RMSE: 12	Model Predicting Training Dataset XRT_1_AutoML_20210414_134953GROUP-B 480 460 400 200 100 200 300 300 340 320	Model Predicting Holdout Dataset XRT_1_AutoML_20210414_134953GROUP-B 250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XRT_1_AutoML_20210414_134953GROUP-B 0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	Model Predicting Holdout Time Series XRT_1_AutoML_20210414_134953GROUP-B 500 450 450 400 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	0 20 40 60 80 100 Residual Plot XRT_1_AutoML_20210414_134953GROUP-B 100 - 75 - 5075100 0 20 40 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B
Rel. Val. RMSE: 15 Validation Rel. Val. RMSE: 15	400 - 400 - 425 - 400 - 400 - 300 - 400 - 500 - 600 - 400 - 600 - 400 - 600 -	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_10GROUP-B	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series (GBoost_grid1_AutoML_20210414_134953_model_10GROUP-B	500 - 450 - 400 - 350 - 300 - 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_10GROUP-B	150 - 100 - 50 - 0 - 20 40 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134953_model_10GROUP-B
Rel. Val. RMSE: 16 Validation Rel. Val. RMSE: 16	500 - 450 400 - 425 300 - 400 200 - 375 350 100 - 325 300 Model Predicting Training Dataset XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series (GBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A	450 - 400 - 350 - 300 - 250 - 0 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A	100 - 50 - 50 - 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A
xgboost A Rel. Val. RMSE: 16 Validation Rel. Val. RMSE: 17	1400 - 1200 - 1200 - 1200 - 1200 - 1200 1400 1600 Model Predicting Training Dataset XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	500 600 700 800 900 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	1400 - 1200 - 1000 - 800 - 600 - 400 - 200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series (GBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	900 - 800 - 700 - 600 - 500 - Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_11GROUP-B	200 - 150 - 100 - 50 - 100 - 50 - 10
Rel. Val. RMSE: 15 Validation Rel. Val. RMSE: 17	500 500 400 300 200 100 200 350 Model Predicting Training Dataset XGBoost_2_AutoML_20210414_134012GROUP-A	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_2_AutoML_20210414_134012GROUP-A	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_2_AutoML_20210414_134012GROUP-A	500 - 450 - 400 - 350 - 300 - 250 - Model Predicting Holdout Time Series XGBoost_2_AutoML_20210414_134012GROUP-A	100 - 50100150 - 0 20 40 60 80 100 Residual Plot XGBoost_2_AutoML_20210414_134012GROUP-A
xgboost A Rel. Val. RMSE: 18 Validation Rel. Val. RMSE: 19 Allowable RMSE: 51	1600 - 12	500 600 700 800 900 Model Predicting Holdout Dataset GBM_2_AutoML_20210414_134953GROUP-B	1600 - 1400 - 1200 - 1000 - 400 - 200 - 0 - 1000 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_2_AutoML_20210414_134953GROUP-B	900 -	150 - 100 - 50 - -100 - -150 - 0 20 40 60 80 100 Residual Plot GBM_2_AutoML_20210414_134953GROUP-B
Validation Rel. Val. RMSE: 20	475 500 400 400 300 375 200 0 100 0 100 200 300 400 500 600 Model Predicting Training Dataset XGBoost_grid_1_AutoML_20210414_134012_model_5GROUP-A	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134012_model_5GROUP-A	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid_1_AutoML_20210414_134012_model_5GROUP-A	500 - 450 - 400 - 350 - 300 - 250 - 0 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134012_model_5GROUP-A	100 - 50 - 50 - 50 - 100 - 70 - 70 - 70 - 70 - 70 - 70 -
xgboost A Rel. Val. RMSE: 20 Validation Rel. Val. RMSE: 21 Allowable RMSE: 51	900 1400 - 1200 - 1000 - 1		1600 - 1400 - 1200 - 10	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series DRF_1_AutoML_20210414_134953GROUP-B	900 -	150 -
Validation Rel. Val. RMSE: 21	475 500 400 400 300 400 375 200 0 100 200 300 400 500 600 Model Predicting Training Dataset	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_2GROUP-B	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid_1_AutoML_20210414_134953_model_2GROUP-B	500 - 450 - 450 - 400 - 350 - 300 - 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_2GROUP-B	150
Rel. Val. RMSE: 20 Validation Rel. Val. RMSE: 21	AGBOOST_GRIDT_AUTOMIT_20210414_134933_model_2GROUP-B 600 -	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_1_AutoML_20210414_134953GROUP-B	600 - 600 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_1_AutoML_20210414_134953GROUP-B	AGBOOSL_grid1_AutoML_20210414_134933_model_2GROUP-B 500 450 400 350 0 20 40 60 80 100 Model Predicting Holdout Time Series GBM_1_AutoML_20210414_134953GROUP-B	150 - 100 -
Rel. Val. RMSE: 22 Validation Rel. Val. RMSE: 23	480 500 400 300 200 100 0 100 100 100 100 100	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134012_model_11GROUP-A	600 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series (GBoost_grid_1_AutoML_20210414_134012_model_11GROUP-A	500 - 450 - 400 - 350 - 250 - 40 - 60 - 80 - 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134012_model_11GROUP-A	150 - 100 - 50 - -100 - 0 20 40 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134012_model_11GROUP-A
xgboost A Rel. Val. RMSE: 23 Validation Rel. Val. RMSE: 23	1400 - 1200 - 1200 - 1200 - 1200 1400 1600 1600 Model Predicting Training Dataset XGBoost_3_AutoML_20210414_134012GROUP-A		1600 - 1400 - 1200 - 1000 - 800 - 400 - 200 - 0 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_3_AutoML_20210414_134012GROUP-A	900 -	150 - 100 - 5050150 - 0 20 40 60 80 100 Residual Plot XGBoost_3_AutoML_20210414_134012GROUP-A
xgboost A Rel. Val. RMSE: 24 Validation Rel. Val. RMSE: 24 Allowable RMSE: 51	850 1200 - 1000 - 800 - 600 - 400 - 200 - 0 200 400 600 800 1000 1200 1400 1600	500 600 700 800 900 Model Predicting Holdout Dataset eepLearning_grid_1_AutoML_20210414_134953_model_1GROUP	1600 - 1400 - 1200 - 1000 - 800 - 400 - 200 - 0 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series epLearning grid_1_AutoML_20210414_134953_model_1GROUP-E	900 - 800 - 700 - 600 - 500 - 600 - 80 100	150 - 100 - 50150150 - 0 20 40 60 80 100 Residual Plot DeepLearning grid 1_AutoML_20210414_134953_model_1GROUP-B
deeplearning B Rel. Val. RMSE: 24 Validation Rel. Val. RMSE: 25 Allowable RMSE: 38	450 400 200 200 0 100 200 350 300 400 500 600 Model Predicting Training Dataset GBM_3_AutoML_20210414_134953GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_3_AutoML_20210414_134953GROUP-B	600 - 400 - 200 - 0 - -200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_3_AutoML_20210414_134953GROUP-B	500 - 450 - 400 - 350 - 300 - 250 - 0 20 40 60 80 100 Model Predicting Holdout Time Series GBM_3_AutoML_20210414_134953GROUP-B	200 - 150 - 100 - 50 - 0 20 40 60 80 100 Residual Plot GBM_3_AutoML_20210414_134953GROUP-B
Validation Rel. Val. RMSE: 25 Allowable RMSE: 38	475 500 400 400 400 300 375 200 100 200 300 400 500 600 Model Predicting Training Dataset t_lr_search_selection_AutoML_20210414_134012_select_grid_model_5 XGBBOttPM2	250 300 350 400 450 500 Model Predicting Holdout Dataset search_selection_AutoML_20210414_134012_select_grid_model_5	600 - 500 - 400 - 300 - 200 - 100 - 0 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series search_selection_AutoML_20210414_134012_select_grid_model_5 X0	500 - 450 - 400 - 350 - 300 - 20 40 60 80 100 Model Predicting Holdout Time Series	150 - 100 - 50 - 100 - 50 - 10
Rel. Val. RMSE: 25 Validation Rel. Val. RMSE: 26 Allowable RMSE: 51	1400 - 12	500 600 700 800 900 Model Predicting Holdout Dataset XGBoost_grid1_AutoML_20210414_134012_model_3GROUP-A	1600 - 1400 - 1200 - 1000 - 800 - 400 - 200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid_1_AutoML_20210414_134012_model_3GROUP-A	900 -	200 - 150 - 100 - 50 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 100 - 150 - 100 - 1
Rel. Val. RMSE: 25 Validation Rel. Val. RMSE: 27	1400 - 1200 - 10	500 600 700 800 900 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_8GROUP-B	1400 - 1400 - 1200 - 1000 - 800 - 400 - 200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid_1_AutoML_20210414_134953_model_8GROUP-B	900 -	200 - 150 - 100 - 50 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 150 - 100 - 1
Rel. Val. RMSE: 26 Validation Rel. Val. RMSE: 26	475 400 400 400 400 400 200 375 350 300 Model Predicting Training Dataset XGBoost_2_AutoML_20210414_134953GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_2_AutoML_20210414_134953GROUP-B	500 - 500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_2_AutoML_20210414_134953GROUP-B	450 - 450 - 400 - 350 - 300 - 250 - 40 60 80 100 Model Predicting Holdout Time Series XGBoost_2_AutoML_20210414_134953GROUP-B	100 - 50100100 - Residual Plot XGBoost_2_AutoML_20210414_134953GROUP-B
Rel. Val. RMSE: 27 Validation Rel. Val. RMSE: 27	480 500 400 400 300 200 0 100 0 100 0 Model Predicting Training Dataset GBM_grid_1_AutoML_20210414_134012_model_6GROUP-A	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134012_model_6GROUP-A	T T T T T T T T T T T T T T T T T T T	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134012_model_6GROUP-A	450 - 450 - 400 - 350 - 300 - 250	100 - 505010050100 - Residual Plot GBM_grid_1_AutoML_20210414_134012_model_6GROUP-A
gbm A Rel. Val. RMSE: 27	1400 -	500 600 700 800 900 Model Predicting Holdout Dataset XGBoost_grid_1_AutoML_20210414_134953_model_5GROUP-B	1600 - 1400 - 1200 - 1000 - 800 - 400 - 200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid_1_AutoML_20210414_134953_model_5GROUP-B	900 - 800 - 700 - 600 - 500 - 0 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_5GROUP-B	100 50 -50 -100 -150 0 20 40 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134953_model_5GROUP-B
Rel. Val. RMSE: 28 Validation Rel. Val. RMSE: 29	500 - 450 400 - 300 - 400 200 - 350 100 - 0 100 200 300 400 500 600 Model Predicting Training Dataset XGBoost_grid_1_AutoML_20210414_134953_model_7GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid1_AutoML_20210414_134953_model_7GROUP-B	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_grid1_AutoML_20210414_134953_model_7GROUP-B	450 - 400 - 350 - 300 - 250 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134953_model_7GROUP-B	100 - 5050150 -
Rel. Val. RMSE: 29 Validation Rel. Val. RMSE: 29 Allowable RMSE: 38	0 100 200 300 400 500 600 Model Predicting Training Dataset	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_grid1_AutoML_20210414_134012_model_12GROUP-A	500 - 500 - 400 - 300 - 200 - 100 - 0 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series (GBoost_grid1_AutoML_20210414_134012_model_12GROUP-A	450 - 450 - 400 - 350 - 300 - 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A	150 - 100 - 50100100 - 0 20 40 60 80 100 Residual Plot XGBoost_grid_1_AutoML_20210414_134012_model_12GROUP-A
xgboost A Rel. Val. RMSE: 16	1200 - 10	500 600 700 800 900 Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134953_model_5GROUP-B	1400 - 1200 - 1000 - 800 - 400 - 200 - 0 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134953_model_5GROUP-B	800 - 700 - 600 -	200 - 150 - 100 - 50 - 100 - 50 - 100 - Residual Plot GBM_grid_1_AutoML_20210414_134953_model_5GROUP-B
Validation Rel. Val. RMSE: 30	500 - 400 - 400 - 400 - 300 - 400 - 500 - 600 Model Predicting Training Dataset GBM_grid_1_AutoML_20210414_134953_model_4GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134953_model_4GROUP-B	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134953_model_4GROUP-B	450 - 400 - 350 - 300 - 250 - 40 - 60 - 80 - 100 - Model Predicting Holdout Time Series GBM_grid_1_AutoML_20210414_134953_model_4GROUP-B	50
Rel. Val. RMSE: 30 Validation Rel. Val. RMSE: 30 Allowable RMSE: 38	475 400 - 400 - 400 - 400 - 300 - 375 200 - 350 350 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 300 - 400 - 300 - Model Predicting Training Dataset GBM_grid_1_AutoML_20210414_134953_model_6GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134953_model_6GROUP-B	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134953_model_6GROUP-B	450 - 400 -	100 - 5050100100 - Residual Plot GBM_grid_1_AutoML_20210414_134953_model_6GROUP-B
Rel. Val. RMSE: 32 Validation Rel. Val. RMSE: 32	500 - 450 400 - 400 300 - 200 100 - 200 300 400 500 600 Model Predicting Training Dataset XGBoost_3_AutoML_20210414_134953GROUP-B	250 300 350 400 450 500 Model Predicting Holdout Dataset XGBoost_3_AutoML_20210414_134953GROUP-B	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_3_AutoML_20210414_134953GROUP-B	450 400 350 300 250 0 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_3_AutoML_20210414_134953GROUP-B	100 - 50 - 0 - -100 - 0 20 40 60 80 100 Residual Plot XGBoost_3_AutoML_20210414_134953GROUP-B
xgboost B Rel. Val. RMSE: 33 Validation Rel. Val. RMSE: 33	500 - 400 - 300 - 200 - 100 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	250 300 350 400 450 500 Model Predicting Holdout Dataset GBM_grid_1_AutoML_20210414_134012_model_5GROUP-A	500 - 400 - 300 - 200 - 100 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series GBM_grid_1_AutoML_20210414_134012_model_5GROUP-A	500 - 450 - 400 - 400 - 350 - 300 - 250 - 0 20 40 60 80 100 Model Predicting Holdout Time Series GBM_grid_1_AutoML_20210414_134012_model_5GROUP-A	150 - 100 - 5010010020 40 60 80 100 Residual Plot GBM_grid_1_AutoML_20210414_134012_model_5GROUP-A
Rel. Val. RMSE: 33	1400 - 12	500 600 700 800 900 Model Predicting Holdout Dataset XGBoost_1_AutoML_20210414_134953GROUP-B	1400 - 1200 - 1000 - 800 - 600 - 200 -	0 250 500 750 1000 1250 1500 1750 2000 Model Predicting Training Time Series XGBoost_1_AutoML_20210414_134953GROUP-B	900 - 800 - 700 - 600 - 500 - 0 20 40 60 80 100 Model Predicting Holdout Time Series XGBoost_1_AutoML_20210414_134953GROUP-B	200 - 1
0.0 0.2 0.4 0.6 0.8 1.0	0 200 400 600 800 1000 1200 1400 1600 Model Predicting Training Dataset XGBoost_1_AutoML_20210414_134953GROUP-B	XGBoost_1_AutoML_20210414_134953GROUP-B	20U 	$oldsymbol{I}$	XGB00St_1_AutoML_20210414_134953GROUP-B	Residual Plot XGBoost_1_AutoML_20210414_134953GROUP-B