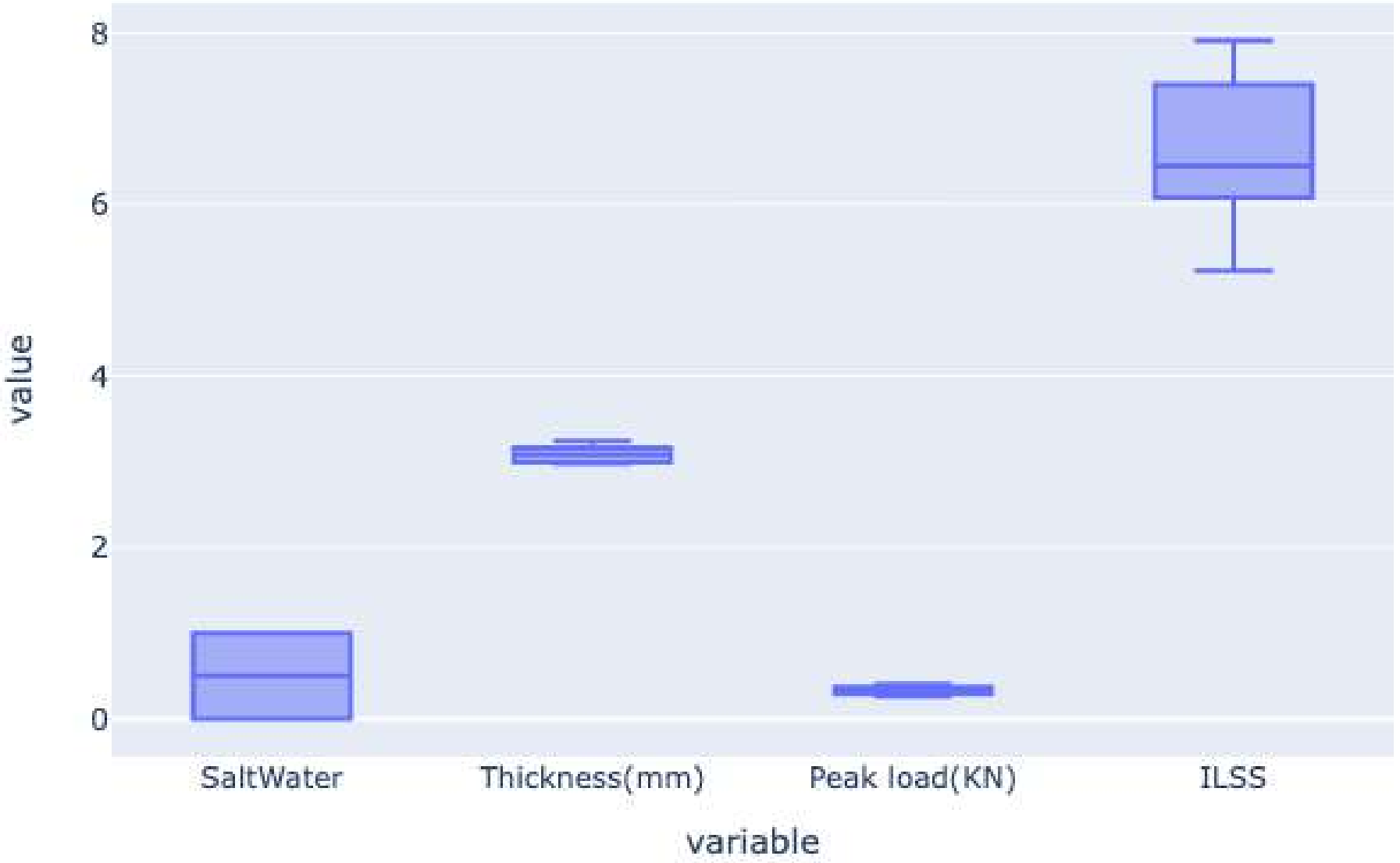
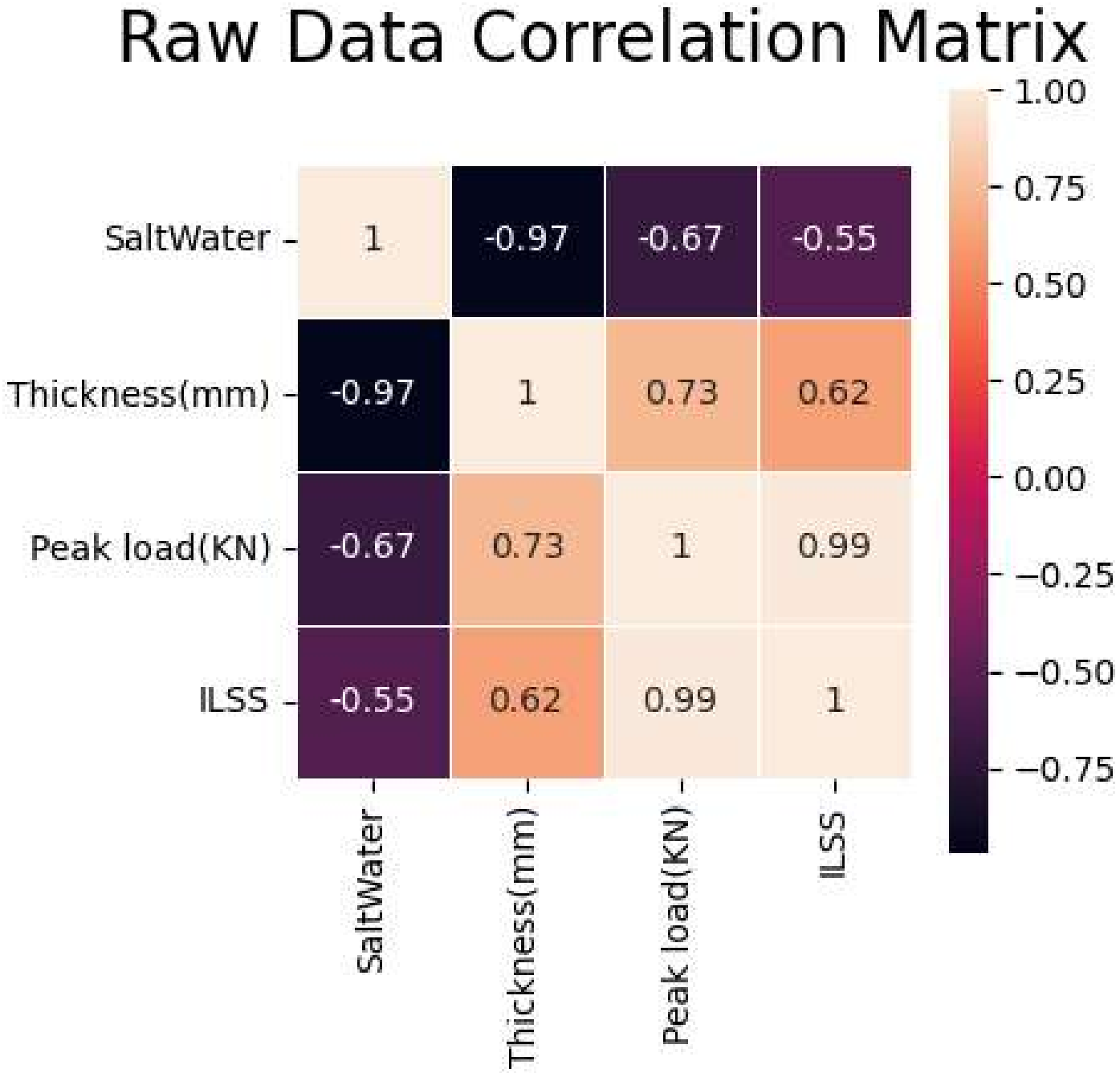
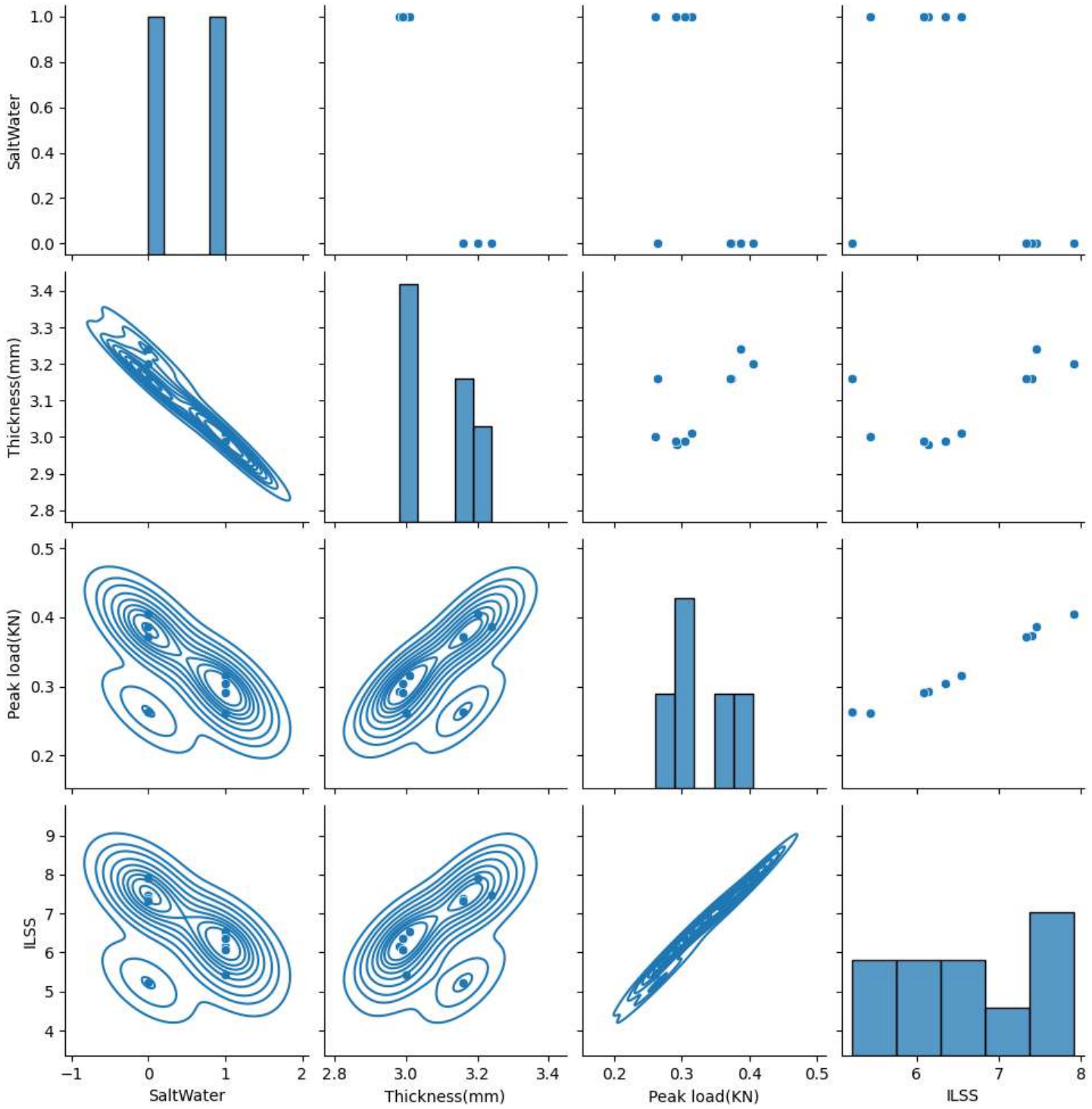
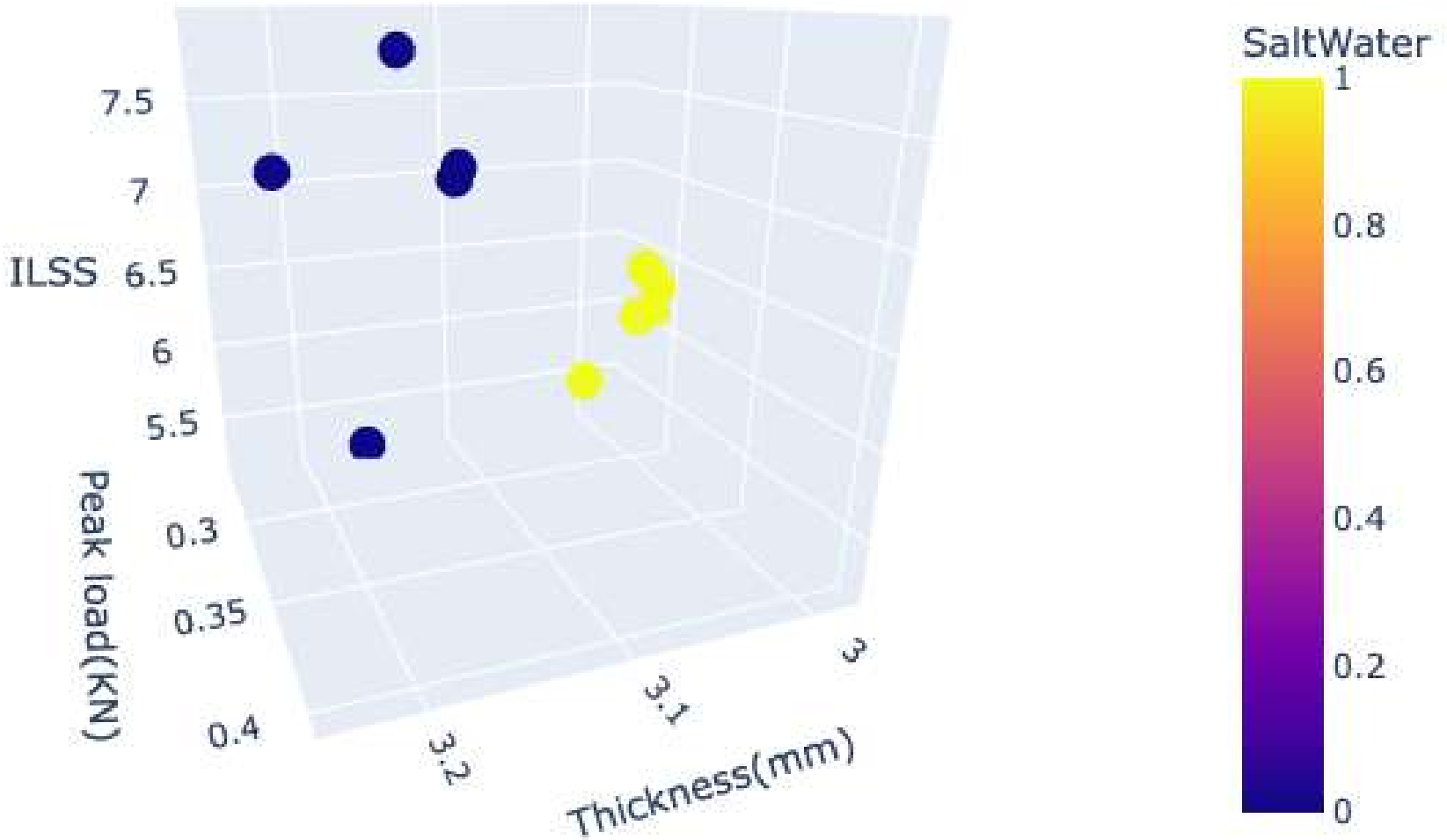
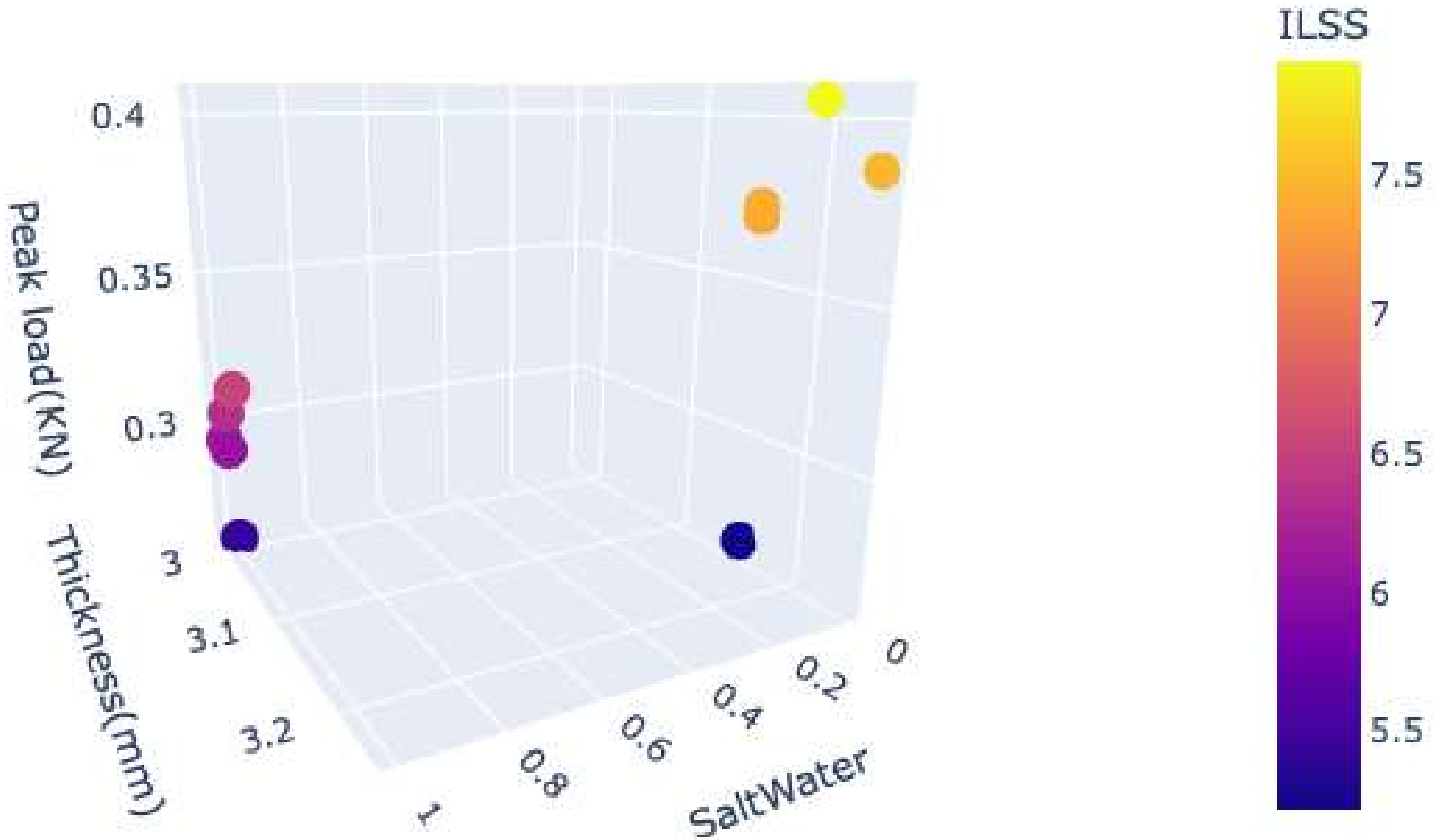
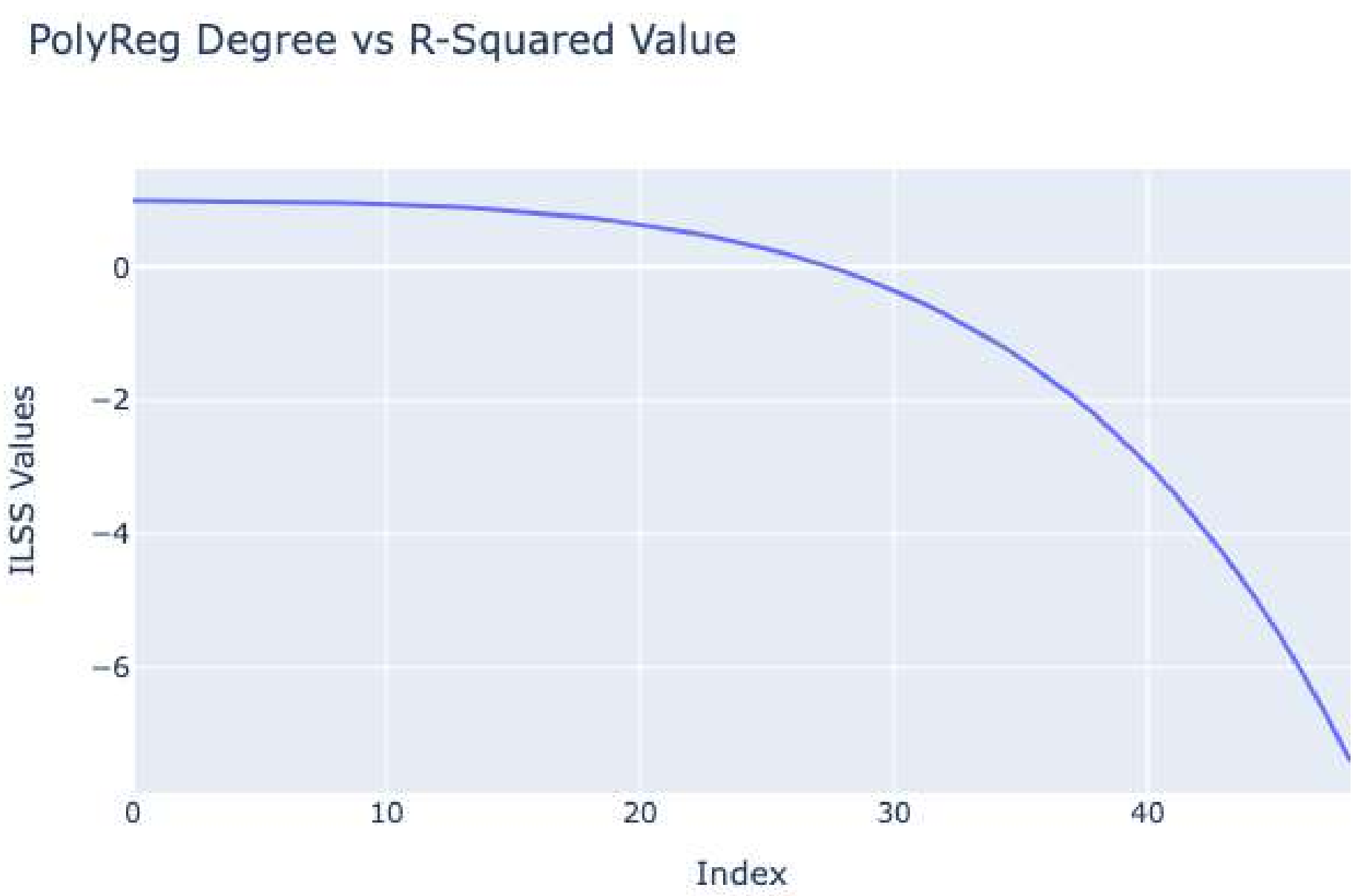

8
6
4
2
0
value
SaltWater
Thickness(mm)
Peak load(KN)
ILSS
variable

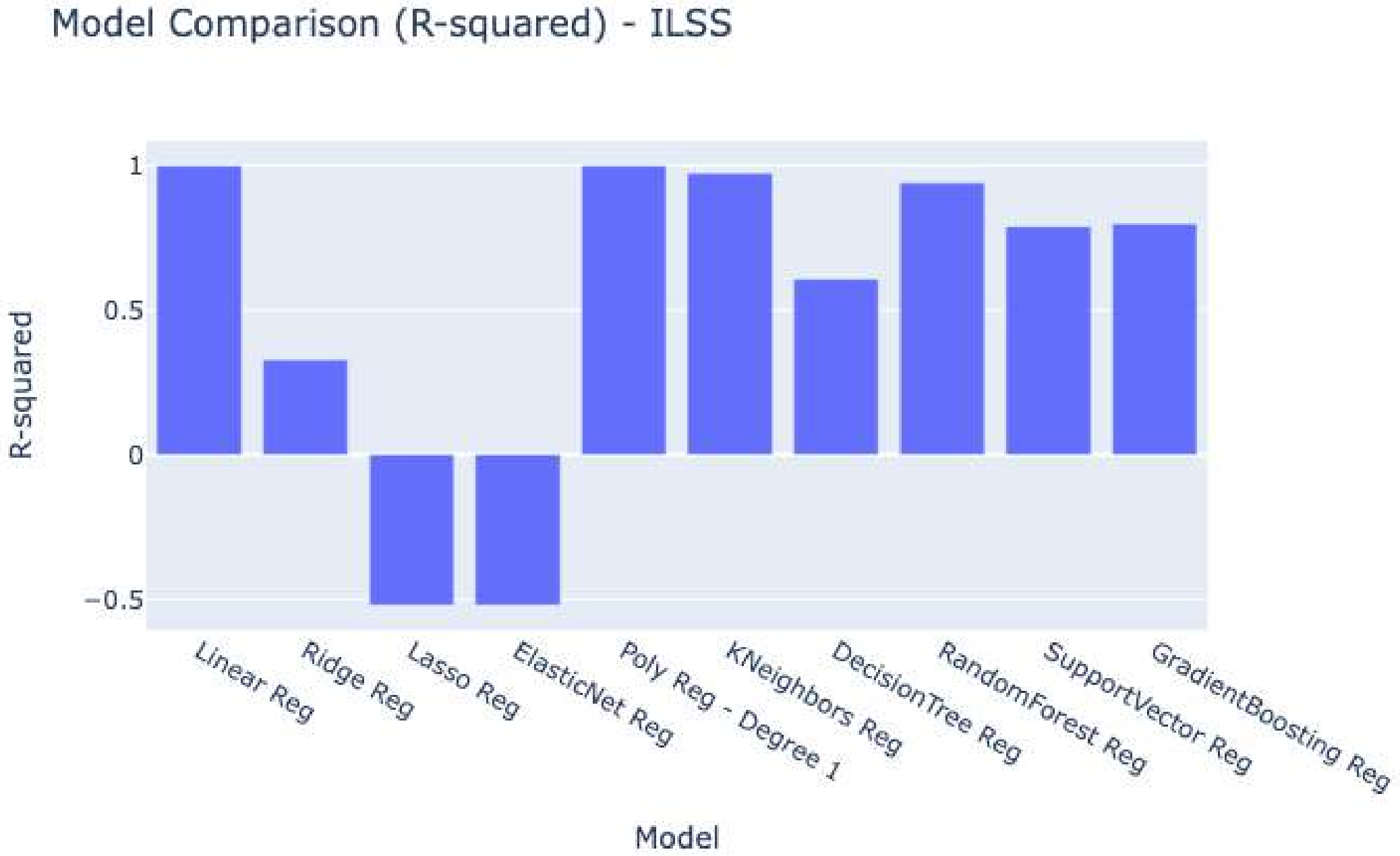

Raw Data Correlation Matrix
SaltWater
Thickness(mm)
Peak load(KN)
ILSS
1
-0.97
-0.67
-0.55
-0.97
1
0.73
0.62
-0.67
0.73
1
0.99
-0.55
0.62
0.99
1
SaltWater
Thickness(mm)
Peak load(KN)
ILSS
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

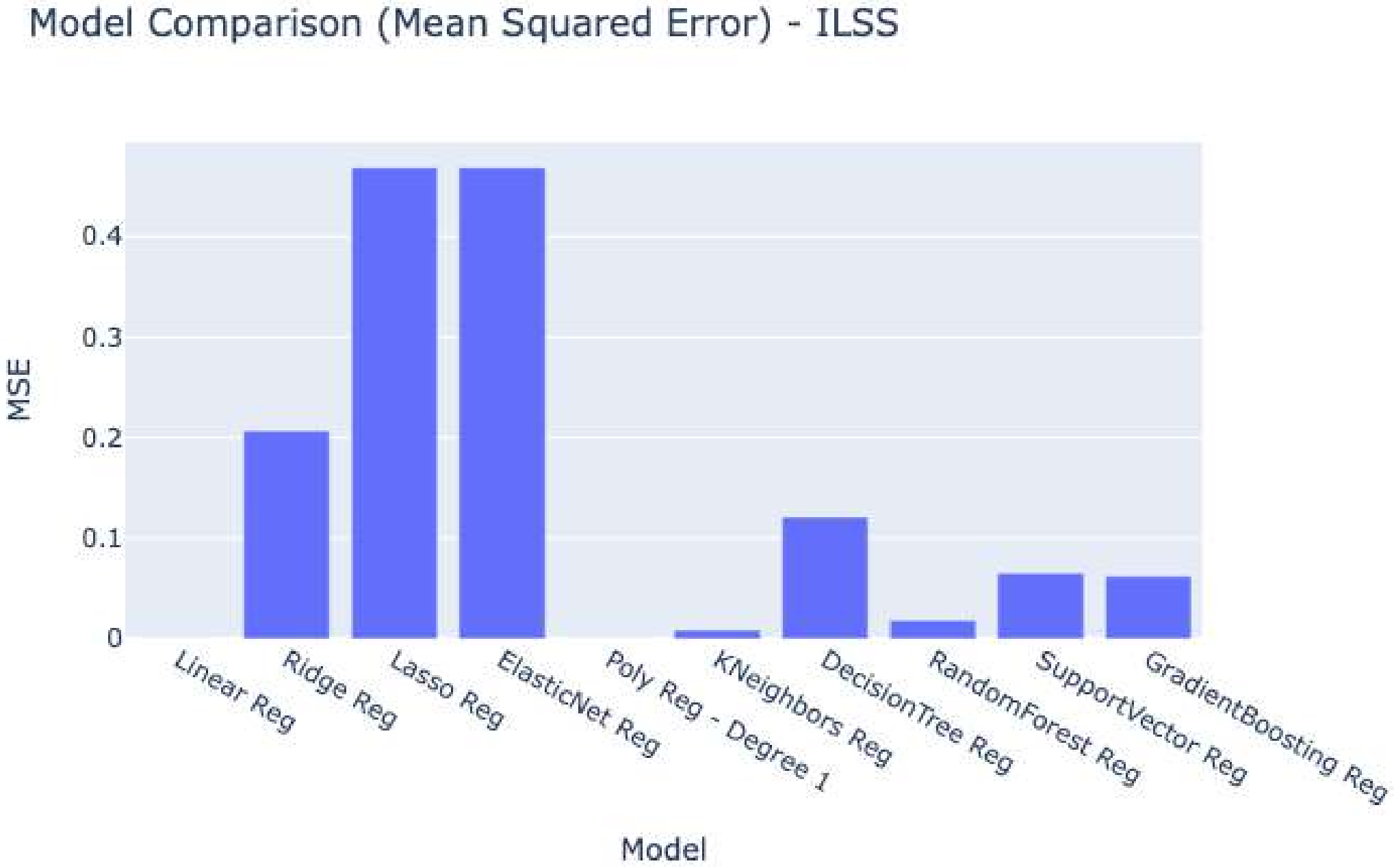

SaltWater
Thickness(mm)
Peak load(KN)
ILSS
SaltWater
Thickness(mm)
Peak load(KN)
ILSS

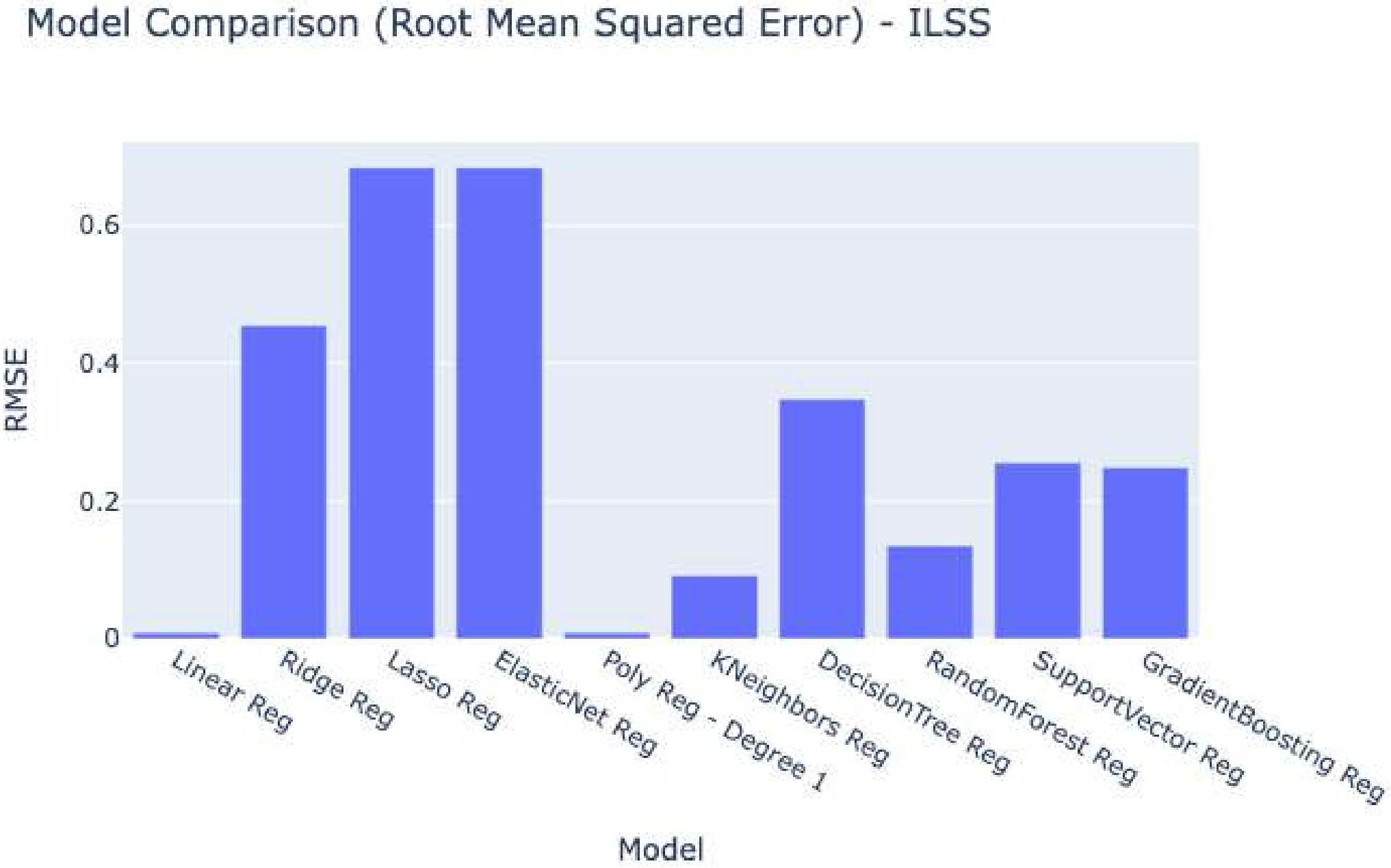

ILSS
7.5
7
6.5
6
5.5
Peak load(KN)
0.3
0.35
0.4
3.2
3.1
3
Thickness(mm)
SaltWater
1
0.8
0.6
0.4
0.2
0

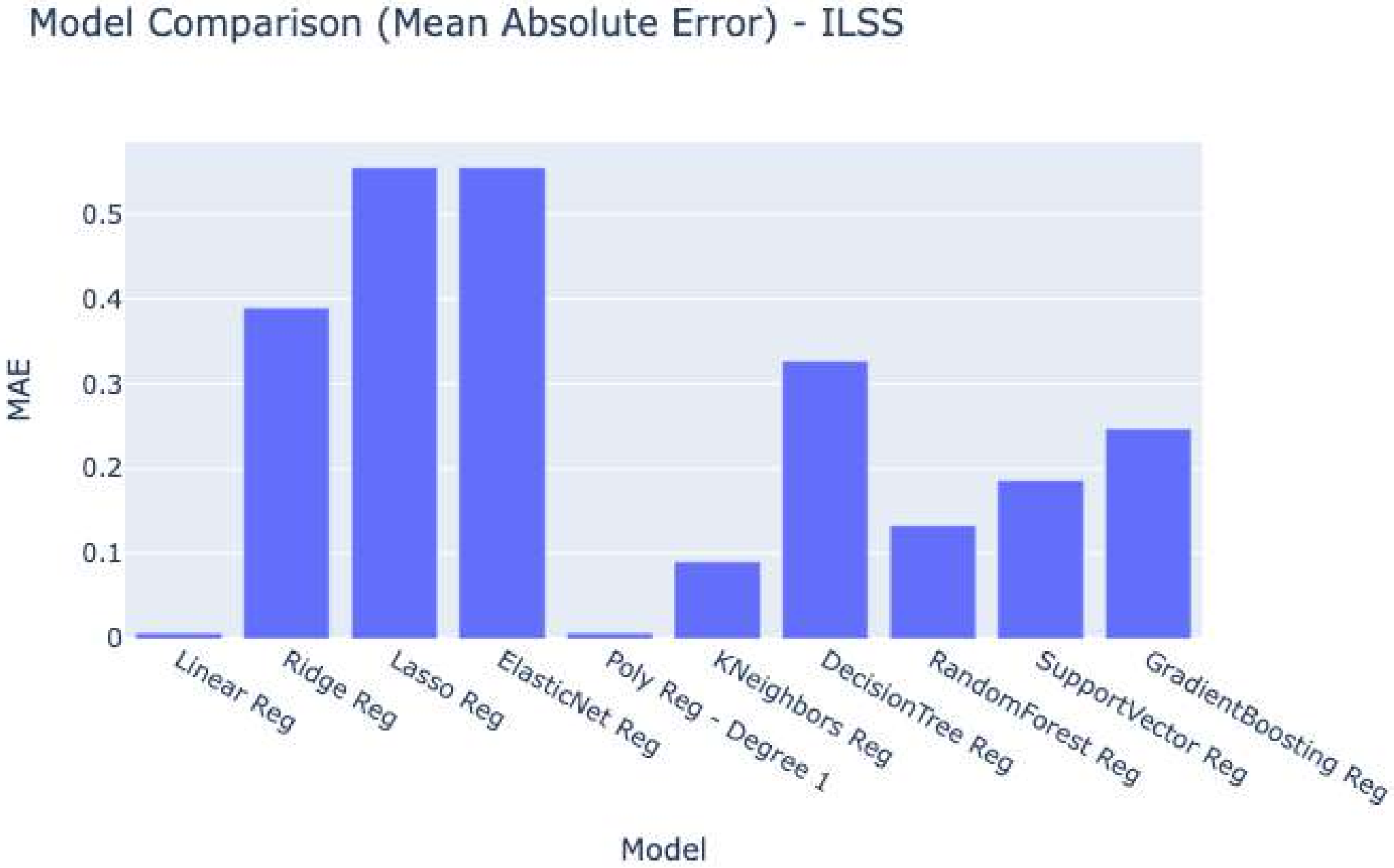

ILSS
7.5
7
6.5
6
5.5
peak load(KN)
0.4
0.35
0.3
Thickness(mm)
3
3.1
3.2
SaltWater
1
0.8
0.6
0.4
0.2
0

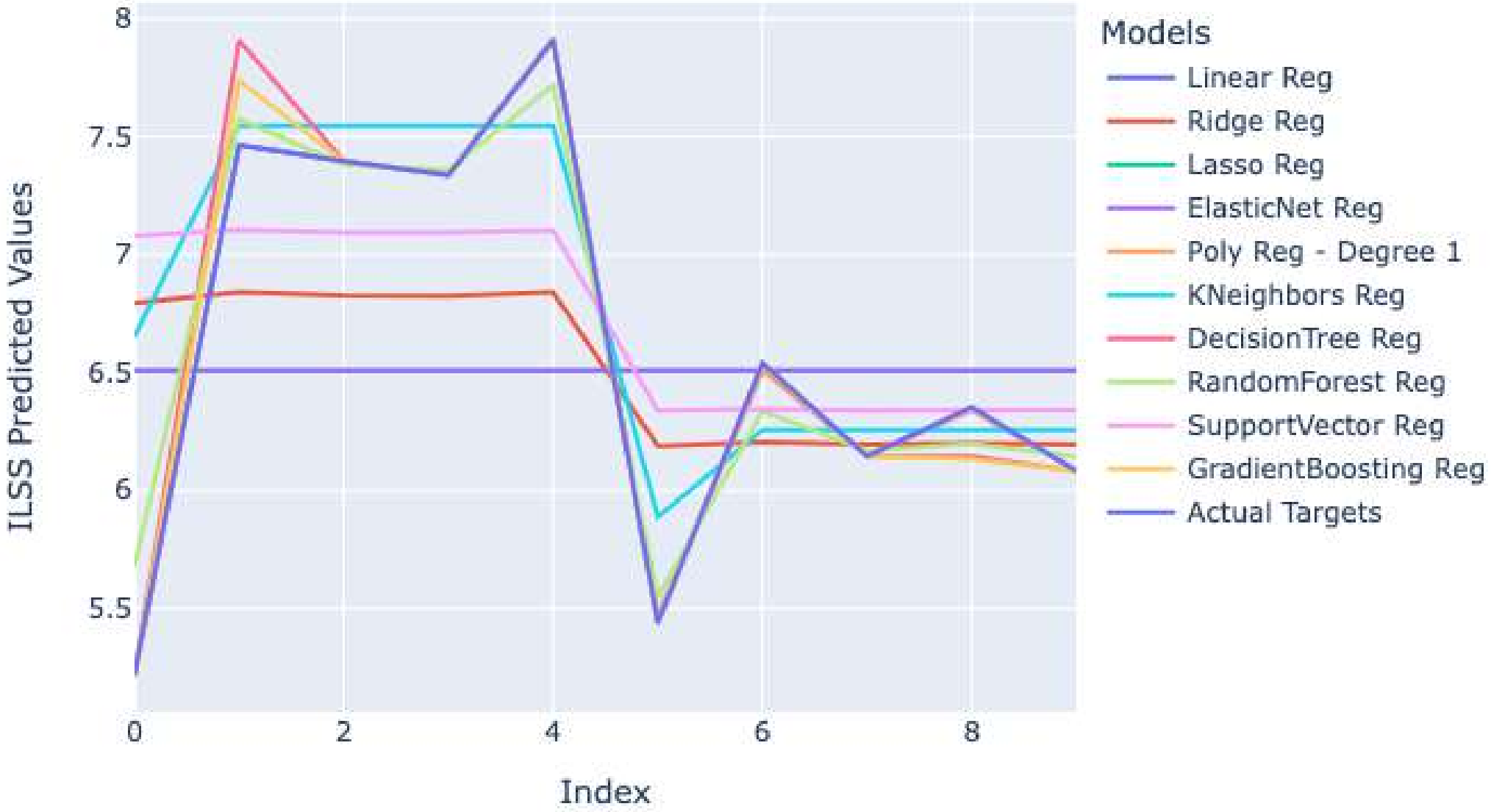

PolyReg Degree vs R-Squared Value
ILSS Values
0
−2
−4
−6
0
10
20
30
40
Index

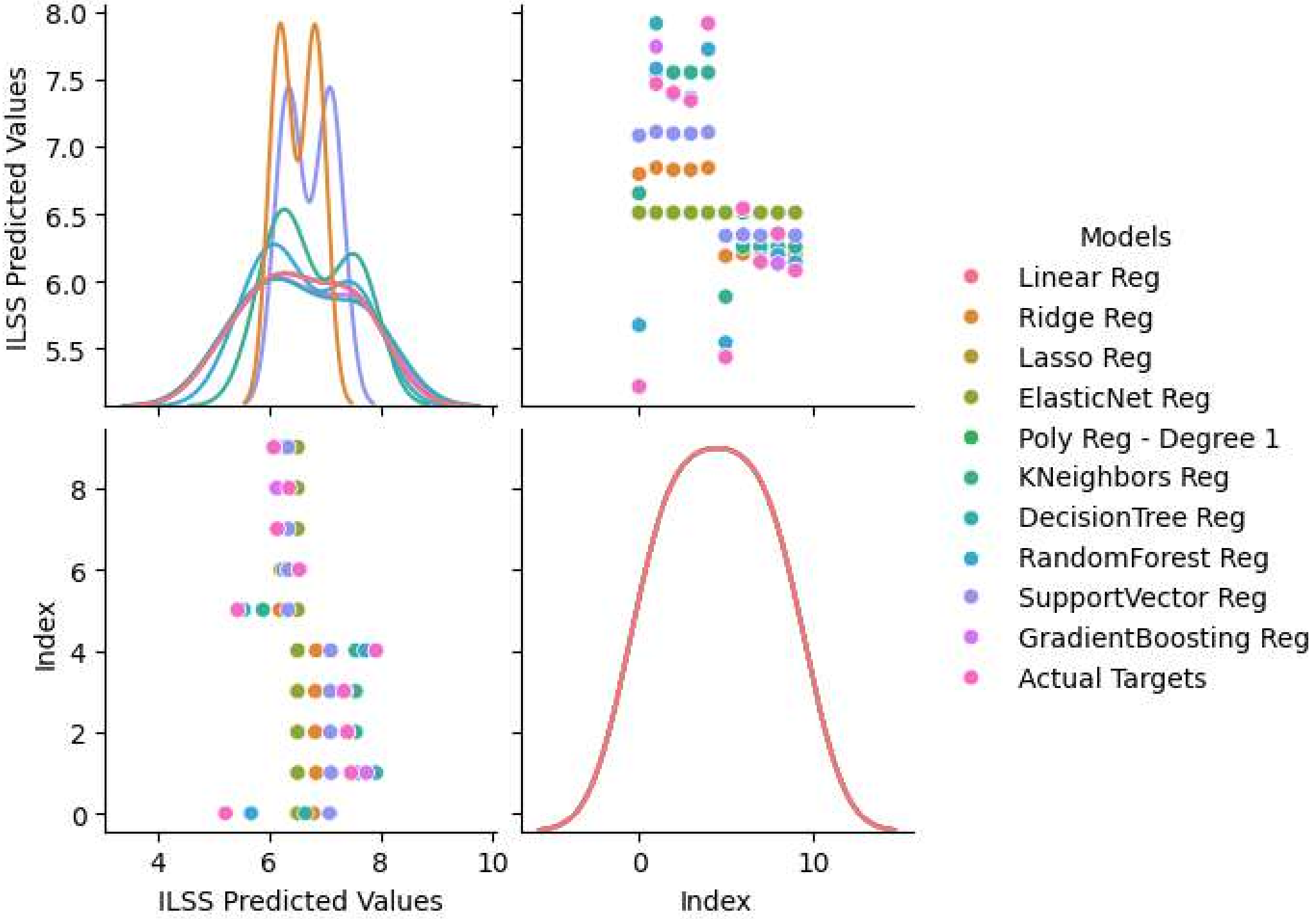

Model Comparison (R-squared) - ILSS
R-squared
1
0.5
0
−0.5
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Model


Model Comparison (Mean Squared Error) - ILSS
MSE
0.4
0.3
0.2
0.1
0
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Model


Model Comparison (Root Mean Squared Error) - ILSS
RMSE
0.6
0.4
0.2
0
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Model


Model Comparison (Mean Absolute Error) - ILSS
MAE
0.5
0.4
0.3
0.2
0.1
0
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Model


ILSS Predicted Values
8
7.5
7
6.5
6
5.5
0
2
4
6
8
Index
Models
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Actual Targets


ILSS Predicted Values
8.0
7.5
7.0
6.5
6.0
5.5
Index
8
6
4
2
0
4
6
8
10
ILSS Predicted Values
0
10
Index
Models
Linear Reg
Ridge Reg
Lasso Reg
ElasticNet Reg
Poly Reg - Degree 1
KNeighbors Reg
DecisionTree Reg
RandomForest Reg
SupportVector Reg
GradientBoosting Reg
Actual Targets