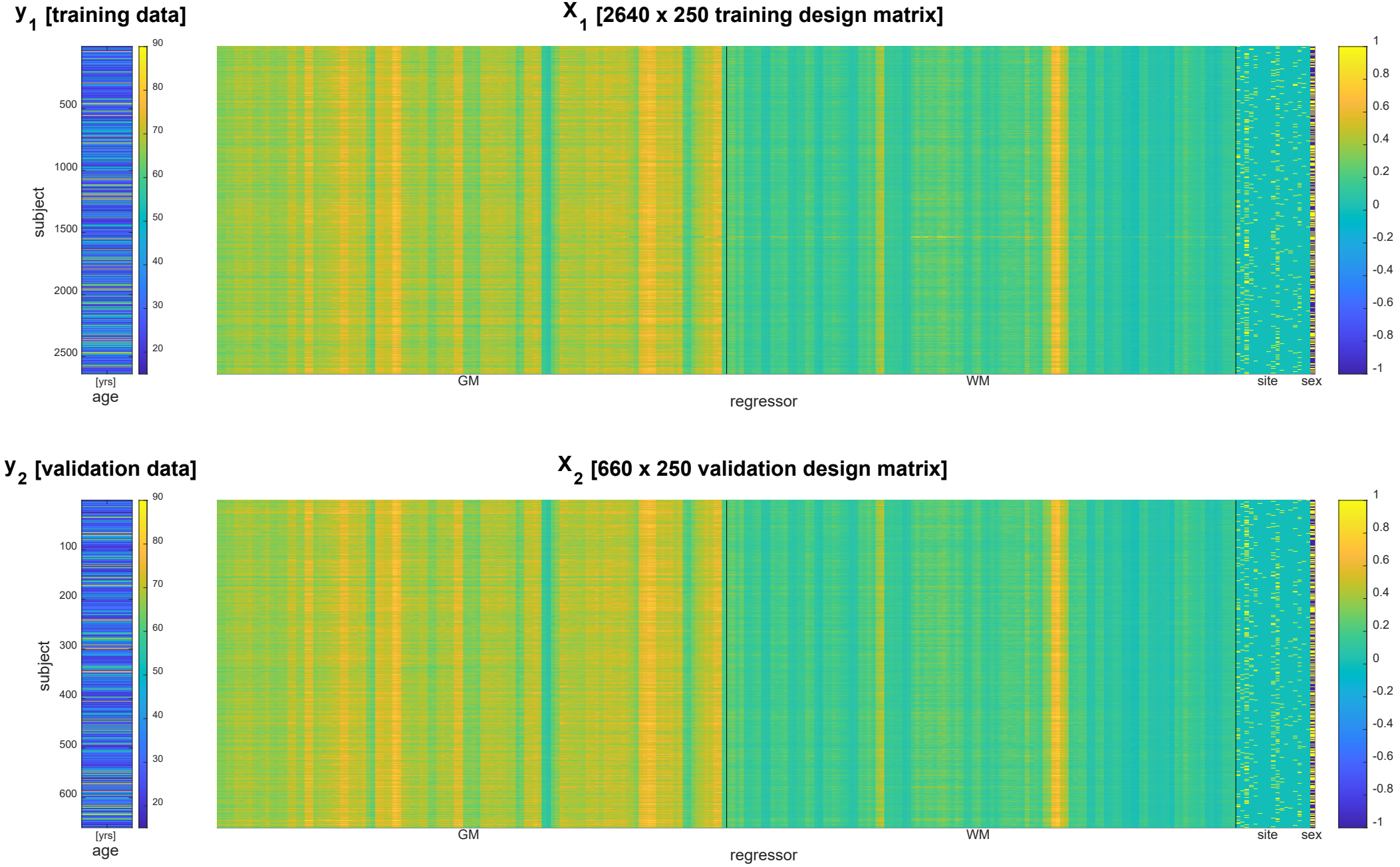
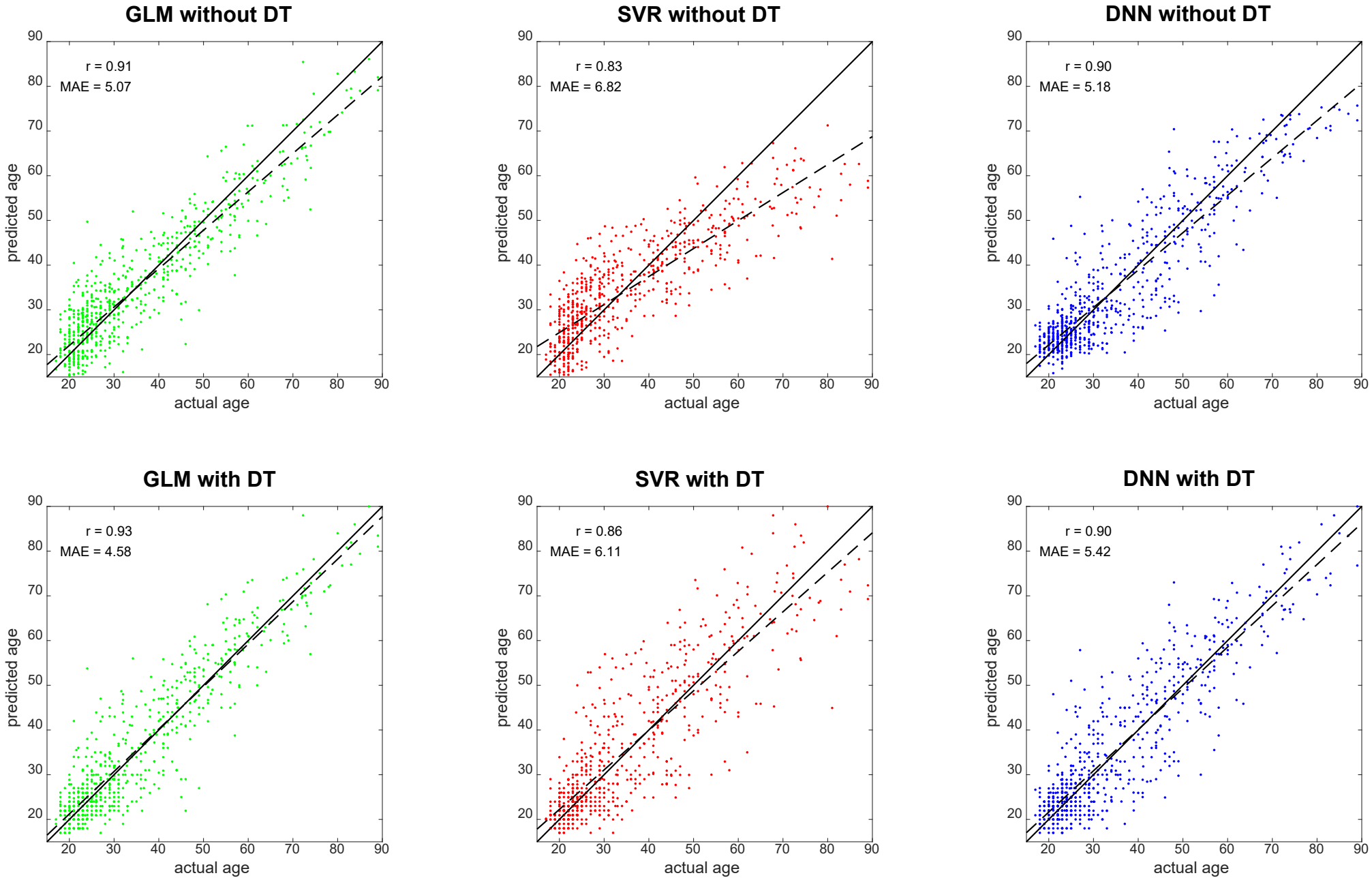
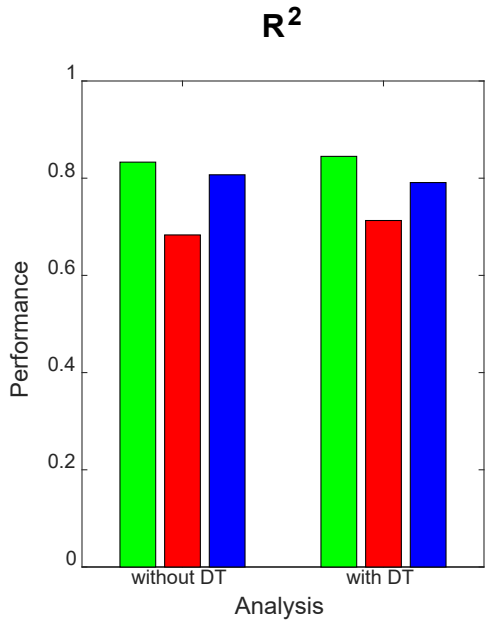
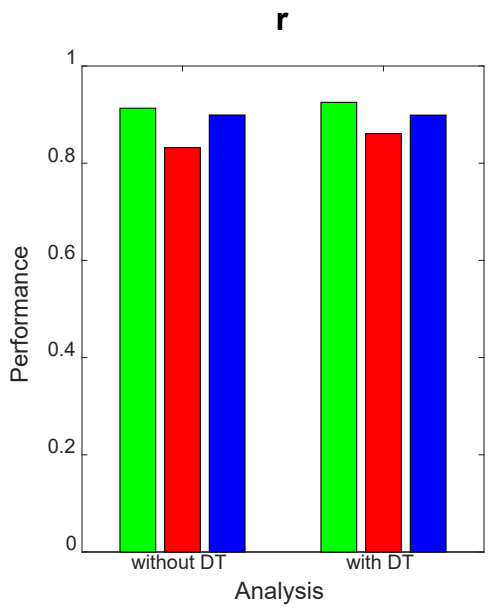
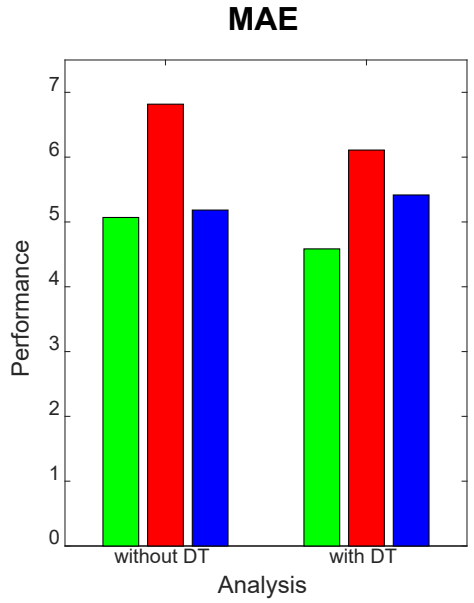
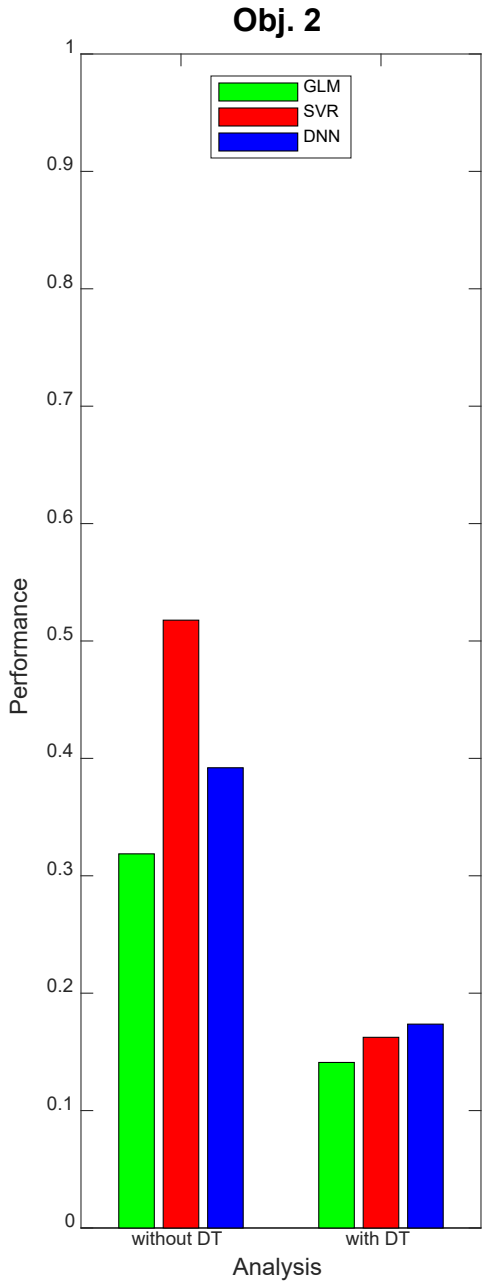

y1 [training data]
X1 [2640 x 250 training design matrix]
subject
500
1000
1500
2000
2500
[yrs]
age
90
80
70
60
50
40
30
20
GM
WM
site
sex
regressor
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
y2 [validation data]
X2 [660 x 250 validation design matrix]
100
200
300
400
500
600

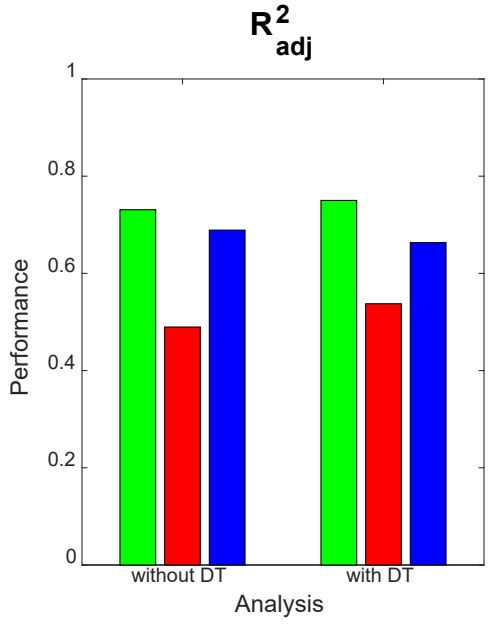

GLM without DT
r = 0.91
MAE = 5.07
SVR without DT
r = 0.83
MAE = 6.82
DNN without DT
r = 0.90
MAE = 5.18
GLM with DT
r = 0.93
MAE = 4.58
SVR with DT
r = 0.86
MAE = 6.11
DNN with DT
r = 0.90
MAE = 5.42
predicted age
actual age
20
30
40
50
60
70
80
90

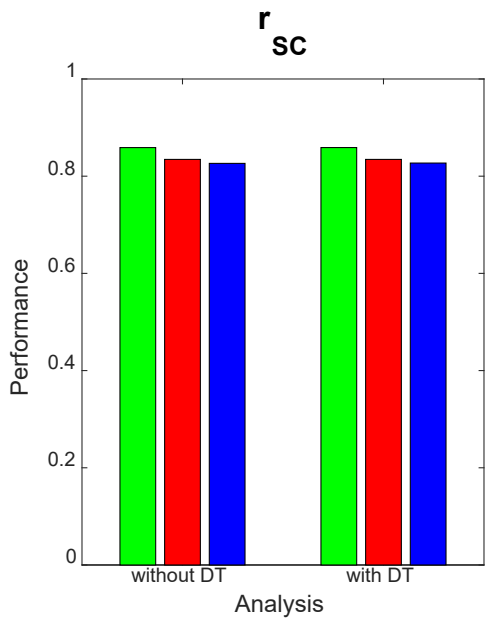

R^2
Performance
Analysis
without DT
with DT

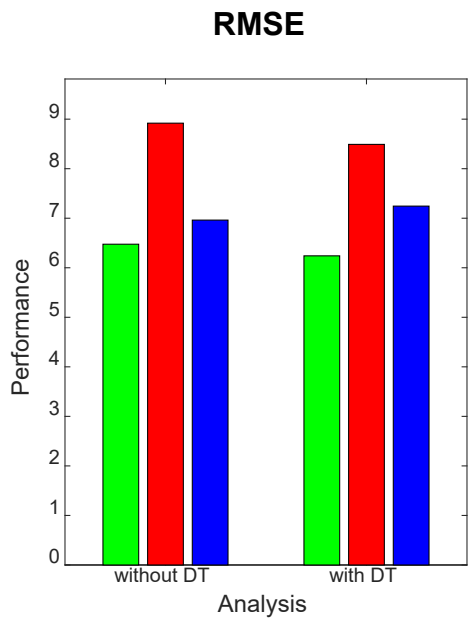

r
Performance
Analysis
without DT
with DT

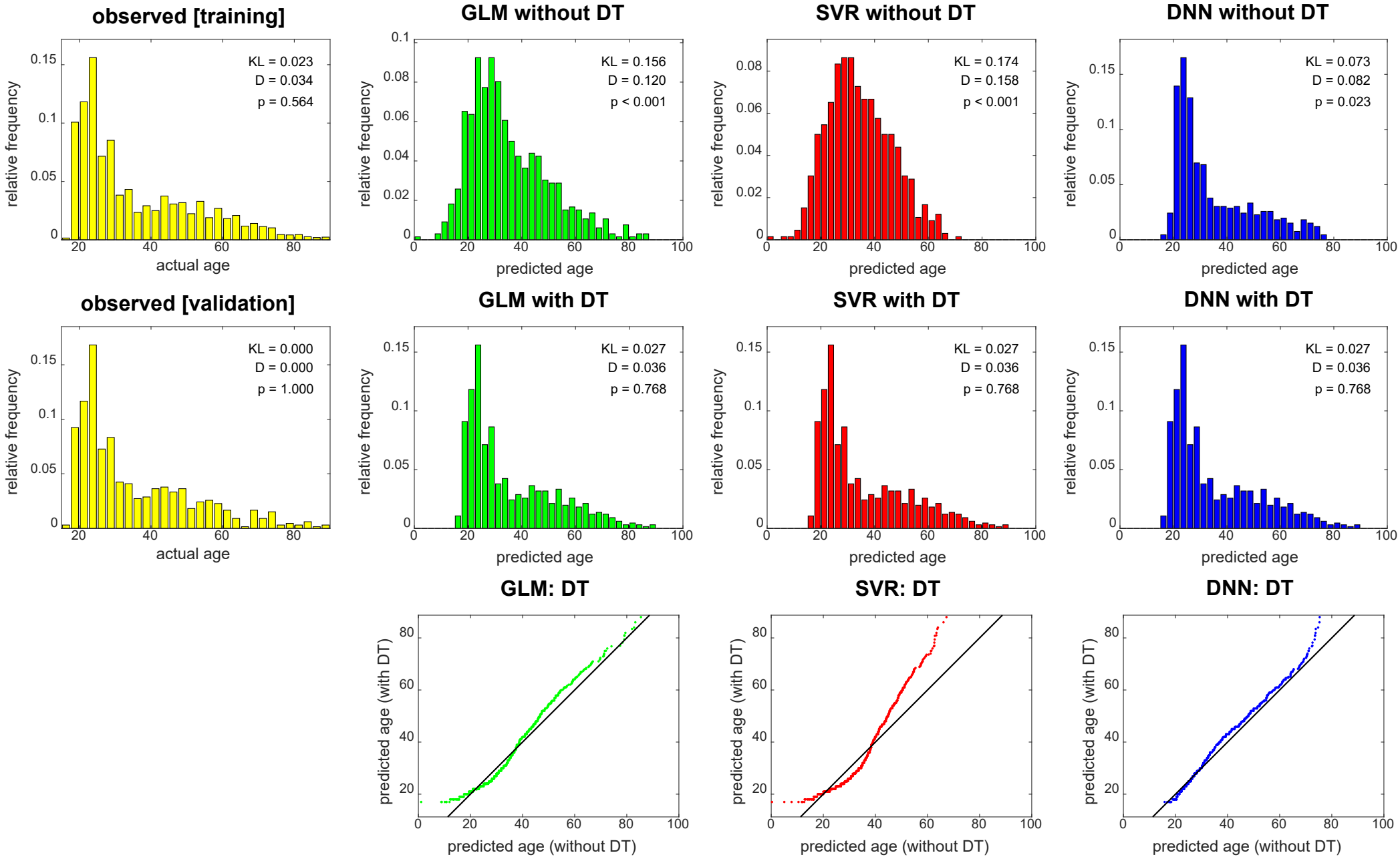

MAE
Performance
Analysis
without DT
with DT

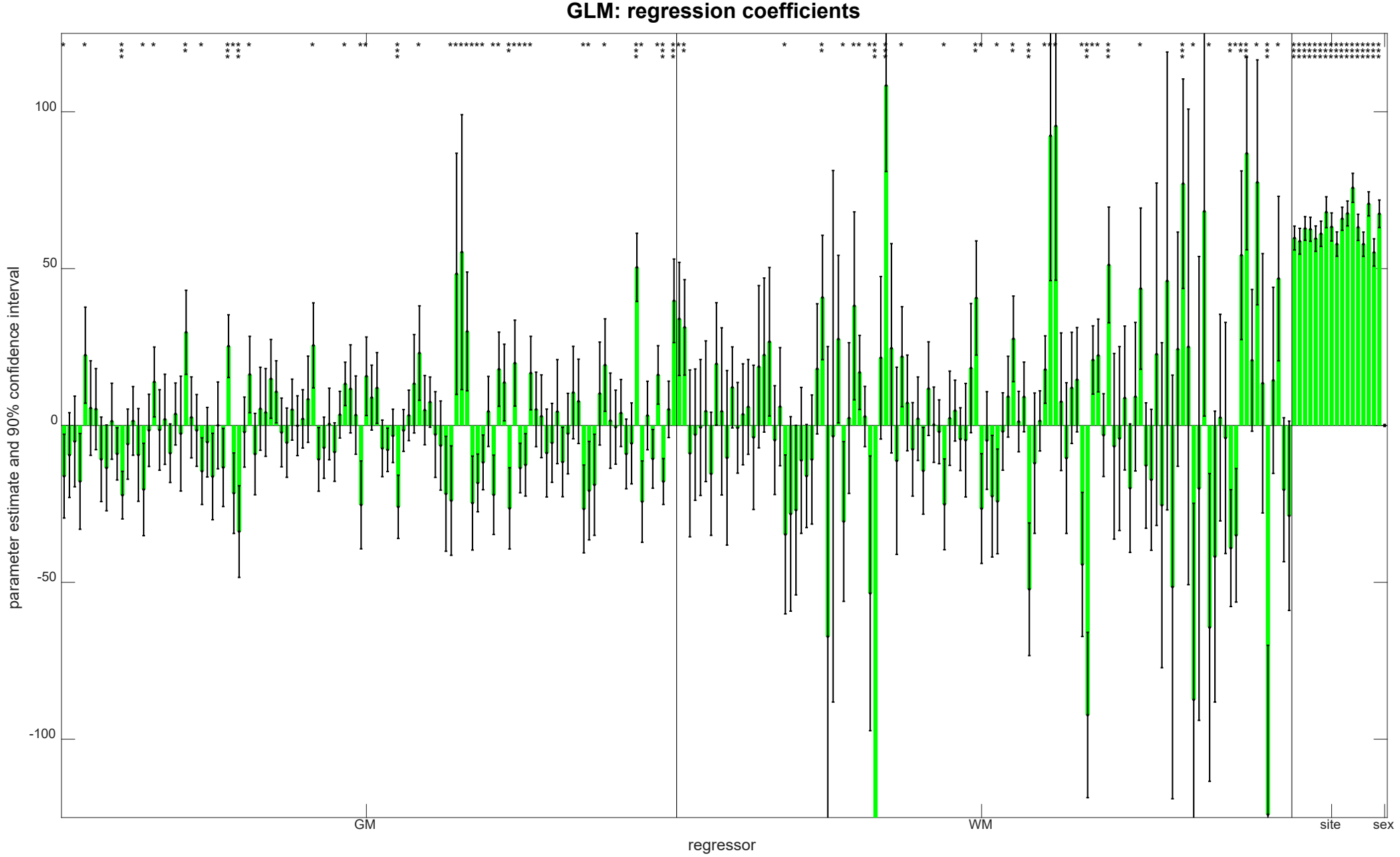

Obj. 2
GLM
SVR
DNN
Performance
Analysis
without DT
with DT


R^2_{adj}
Performance
Analysis
without DT
with DT


r_{SC}
Performance
Analysis
without DT
with DT


RMSE
Performance
Analysis
without DT
with DT


observed [training]
relative frequency
actual age
KL = 0.023
D = 0.034
p = 0.564
GLM without DT
predicted age
KL = 0.156
D = 0.120
p < 0.001
SVR without DT
KL = 0.174
D = 0.158
p < 0.001
DNN without DT
KL = 0.073
D = 0.082
p = 0.023
observed [validation]
KL = 0.000
D = 0.000
p = 1.000
GLM with DT
KL = 0.027
D = 0.036
p = 0.768
SVR with DT
KL = 0.027
D = 0.036
p = 0.768
DNN with DT
KL = 0.027
D = 0.036
p = 0.768
GLM: DT
predicted age (with DT)
predicted age (without DT)
SVR: DT
DNN: DT


GLM: regression coefficients
parameter estimate and 90% confidence interval
100
50
0
-50
-100
GM
WM
site
sex
regressor