

0409 HW1

take

2021 4 13

1 Ridge regression solution

$$X = U\Sigma V^T, U^T U = I_d, V^T V = I_d$$

1.1)

$$\begin{aligned} & (\lambda I_d + X^T X)^{-1} X^T \\ &= (\lambda I_d + V \Sigma U^T U \Sigma V^T)^{-1} X^T \\ &= (\lambda I_d + V \Sigma I_d \Sigma V^T)^{-1} X^T \end{aligned}$$

2 Kaggle competition data