(2015) Dol Marie (2015) 12 18

Riage Ryrussion

- Cost function in case of Ridge Regression.

$$Cf = \sum_{i=1}^{n} (y_i - \sum_{j=1}^{n} \sum_{i=1}^{n} \beta_i) + \lambda \sum_{j=1}^{n} \beta_j$$

$$from 4mean \left(\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \beta_i \right)$$

$$Regularization.$$

- -> The reduce variance in Linear Regression Hodel.
- -> This in creases bias in Linear Regression Model.
- -> This prevents overfitting.
- -> 2 harned through cross-validation / hyperparameter tuning:
- -> This reduces model complexity. & over-fitting.
- -> This puts contraints on the wefficients (w)
- -> 2 (penalty term) reduces overall slope
- -> So, Ridge Regression Shrinke wefficients and helps to reduce model complexity & multi-colinearity.

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-> bolt function in case of Lacco Regression.

- -> Reduces Variance, Increases bia, Reduces or exfilting. & complexity
- 5 2 (penalty term) reduces overall slope and is learnet through cross-validation I by perparameter tunis.
- as constraints &
- -> Reduces multi-collinganing

- Helps in Rothire Seliction as reduces stope of events of come features 100 (zero). Whe following cost firestron in case of 1213 e segresion El astic Net -> When there are tons of variables (1) (1) (1) - lost function! Cf = \(\frac{1}{2}\) (\(\frac{1}{2}\) - \(\frac{1}{2}\) \(\fra The House william in planting result the That in exerces him in linear Registeren Model. CMINISTROPINO LITTER ENT - there may or may not be mixing in Il *II -> 21=0, lasso & 21=0, Ridge labour mutar mit -> Strengthe of both Ridge & Lasso.

> Strengthe of both Ridge & Lasso.

> 9012 Horard while (word phiensy) & > very good at dealing with situation when there are Correlations blue parameters.

Planting illumination of the property of the parameters of the parameters. -> Lasso pichs only I correlated feature while Riage Lends to shrible an parametus for cornelated variables together the function in cone of lace Regression NOTE: 1:41 = 1 (18 1) = 3 TON 2, 21, 22 all greater than o. 1 Reduces vomance, sucresses her, Ruture overfrong seconsplais y Erains. Inearly 2000 olas musica mass and 12 pours of Expers north comment of programmers formers. Solution menters calling and