

Regularization Terms

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What are Regularization terms ?

- ▶ Def: Regularizes the coefficient estimates towards zero.
- ▶ Ridge
- ▶ Lasso

But why regularization needed ?



But why regularization needed ?

- ▶ As we tries to regularize,
- ▶ the over fitting is controlled

Ridge

- ▶ St. Line equation : $Y = mX + C$
- ▶ Ridge equation : $Y^I = [(Slope)^2 \times \lambda] X + C$

Lasso

- ▶ We regularize even more than ridge
- ▶ Lasso Equation = $[\lambda \times |\text{slope}|] X + C$
- ▶ If more than 2-D :
- ▶ Lasso Equation = $[\lambda \times |m_1 + m_2 + \dots m_n|] X + C$
- ▶ It also helps in feature selection too.