< Bias and Variance - Deciding what to try next >

- After deciding if my algorithm has high bias or high variance, what to try next to improve algorithm?

cx) Recap

Debugging a learning algorithm

⇒ housing price prediction problem을 해결하기 위해 regularized linear regression을 implement

$$J(\vec{w},b) = \frac{1}{2m}\sum_{i=1}^{m}\left(f_{\vec{w},b}(\vec{x}^{(i)}) - y^{(i)}\right)^2 + \frac{\lambda}{2m}\sum_{j=1}^{n} w_j^2$$

↳ 만약 이 model을 사용하여 train set에 없는 새로운 데이터를 적용하자 예측 에러가 너무 크다면?

⇓

- Get more training examples → fixes high variance
- Try smaller sets of features ($x, x^2, \cancel{x^3}, \cancel{x^4}, \cdots$) → fixes high variance
- Try getting additional features → fixes high bias
- Try adding polynomial features (x_1^2, x_2^2, x_1x_2, etc) → fixes high bias
- Try decreasing λ → fixes high bias
- Try increasing λ → fixes high variance