



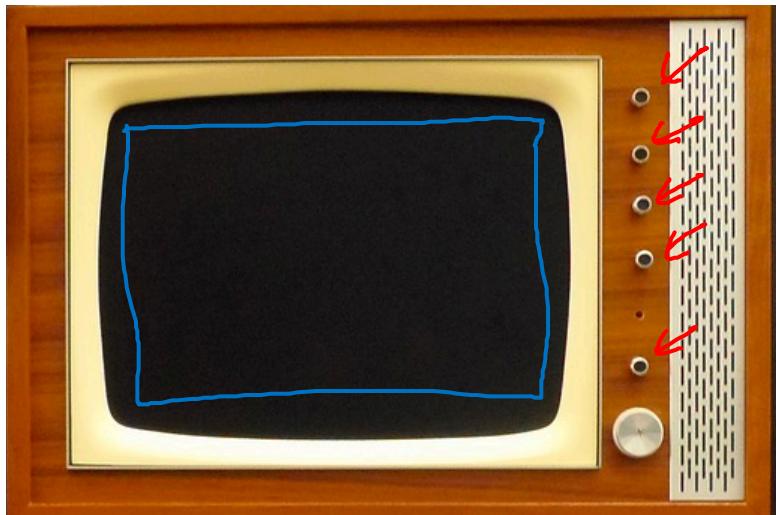
deeplearning.ai

# Introduction to ML strategy

---

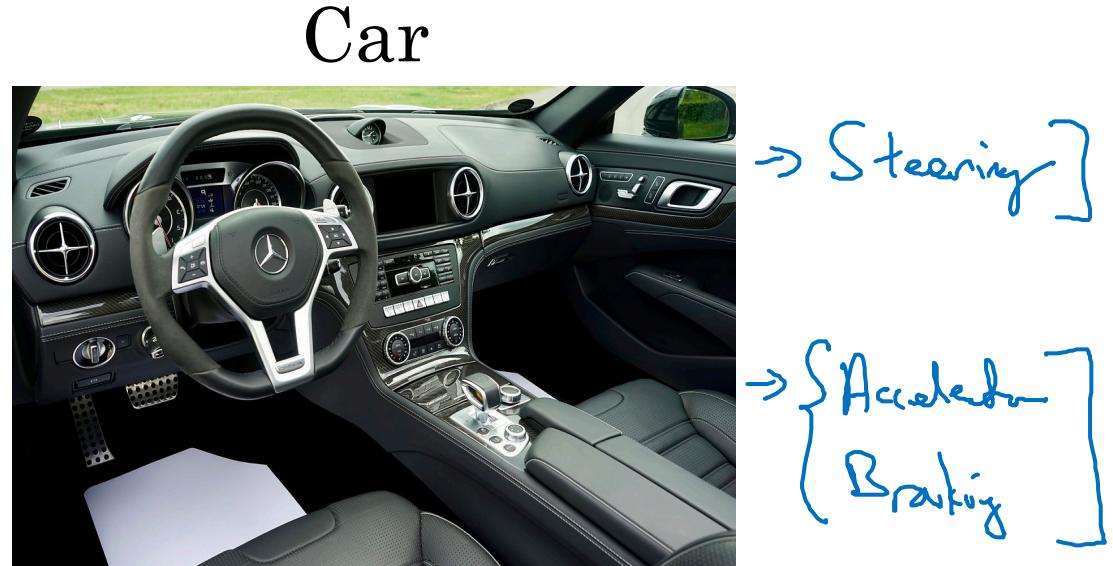
## Orthogonalization

# TV tuning example



Orthogonalization

$$0.1 \times \begin{array}{c} \uparrow \\ \downarrow \end{array} + 0.3 \times \begin{array}{c} \leftarrow \\ \rightarrow \end{array} - 1.7 \times \begin{array}{c} \diagdown \\ \diagup \end{array} + 0.8 \times \begin{array}{c} \leftarrow \\ \rightarrow \end{array} + \dots$$

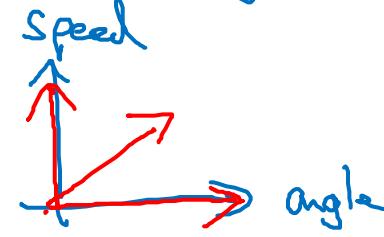


Car

$\rightarrow$  Steering ]  
 $\rightarrow$  Accelerate [ Braking ]

$$\rightarrow \underline{0.3 \times \text{angle}} - 0.8 \times \text{speed}$$

$$\rightarrow 2 \times \text{angle} + 0.9 \times \text{speed}.$$

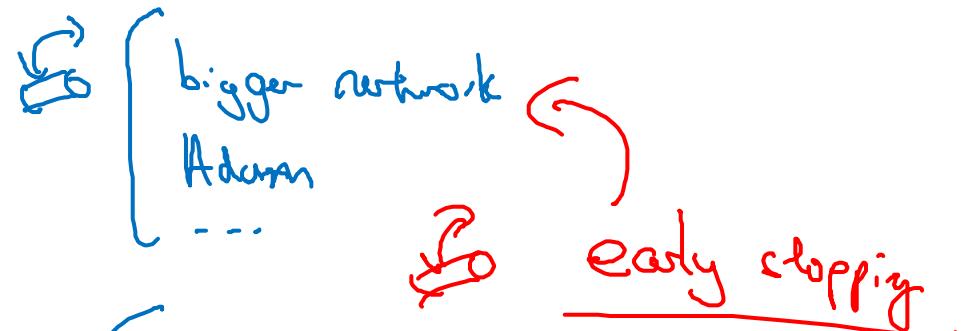


# Chain of assumptions in ML

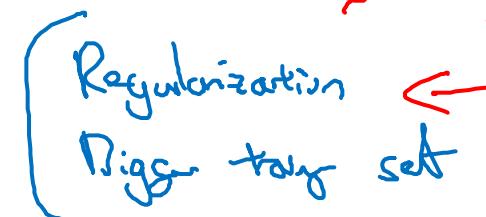
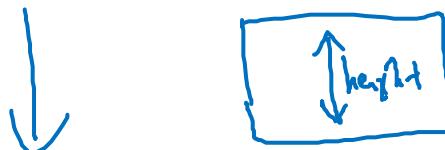
→ Fit training set well on cost function



(≈ human-level performance)



→ Fit dev set well on cost function



→ Fit test set well on cost function

Bigger dev set



→ Performs well in real world

(Happy cat pic off users.)

Change dev set or  
cost function