

# Deep Learning@Coursera

week2 outro

## Deep Learning is...



Yandex  
Data Factory

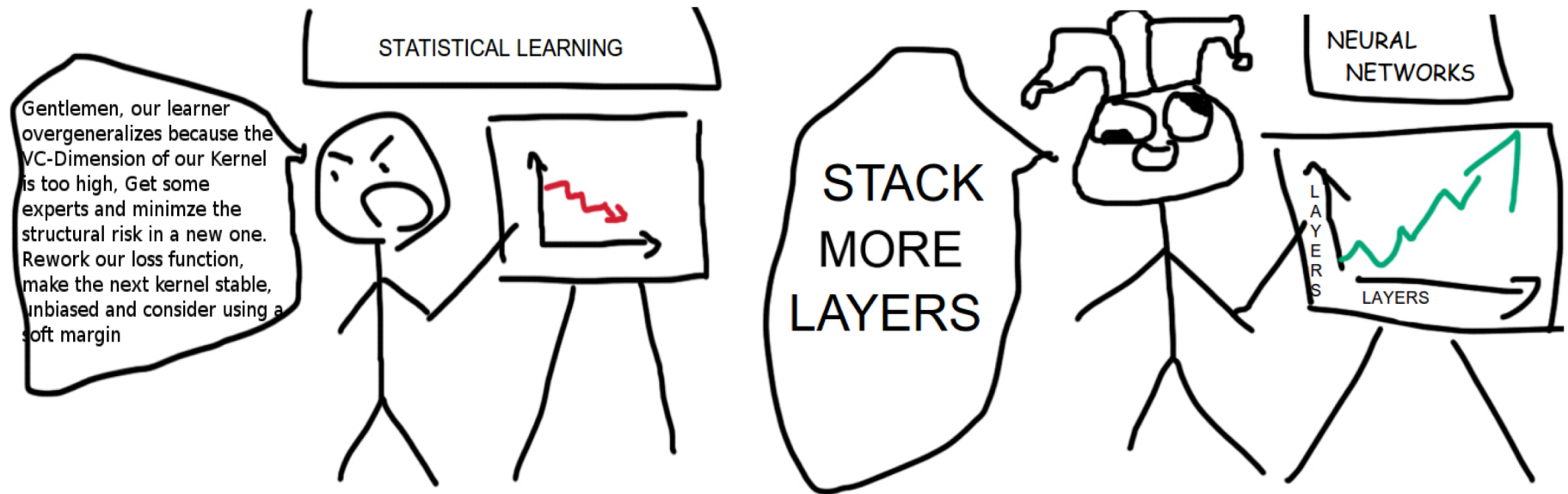
LAMBDA 



**British Hedgehog  
Preservation Society**

# Not magic!

Don't expect deep learning to solve all your problems for free.  
For it won't.



<https://i.warosu.org/data/sci/img/0073/62/1435656449422.png>

# Not magic

## **Book of grudges**

- No core theory
  - Relies on intuitive reasoning

# Not magic

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- Needs tons of data
  - You need either large dataset or heavy wizardry

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- Computationally heavy
  - Running on mobiles/embedded is a challenge

# Not magic

## Book of grudges

- No core theory
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- Needs tons of data
  - You need either large dataset or heavy wizardry
- Computationally heavy
  - Running on mobiles/embedded is a challenge
- Pathologically overhyped
  - People expect of it to make wonders

**Deep learning is a language**

# Deep learning is a language

in which you can hint your model  
on what you want it to learn



# Deep learning is a language

Say, you train classifier on two sets of features



Raw  
features

The diagram consists of three rounded rectangular boxes. On the left side, there are two blue boxes stacked vertically. The top blue box contains the text 'Raw features' and the bottom blue box contains the text 'High-level features'. On the right side, there is a single orange box containing the text 'Target'. There are no arrows or other graphical elements connecting these boxes.

High-level  
features

Target

# Deep learning is a language

Say, you train classifier on two sets of features

Raw  
features

Car photo  
(image pixels)

High-level  
features

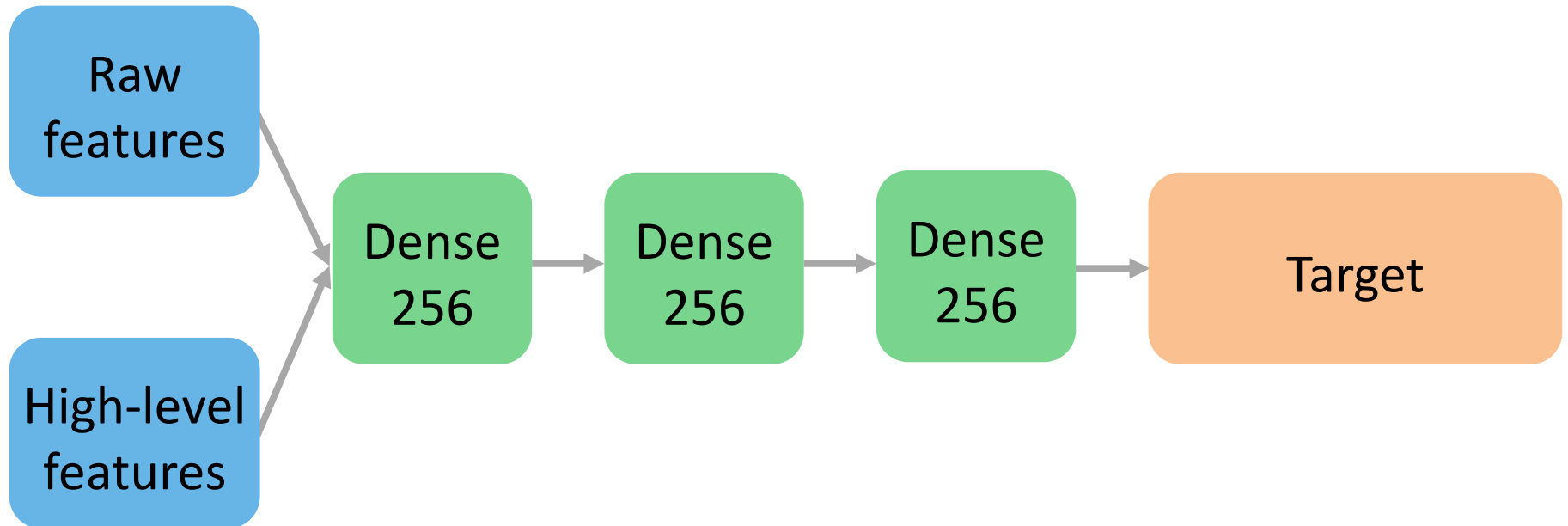
Car brand,  
model, age,  
blemishes

Car  
price

Target

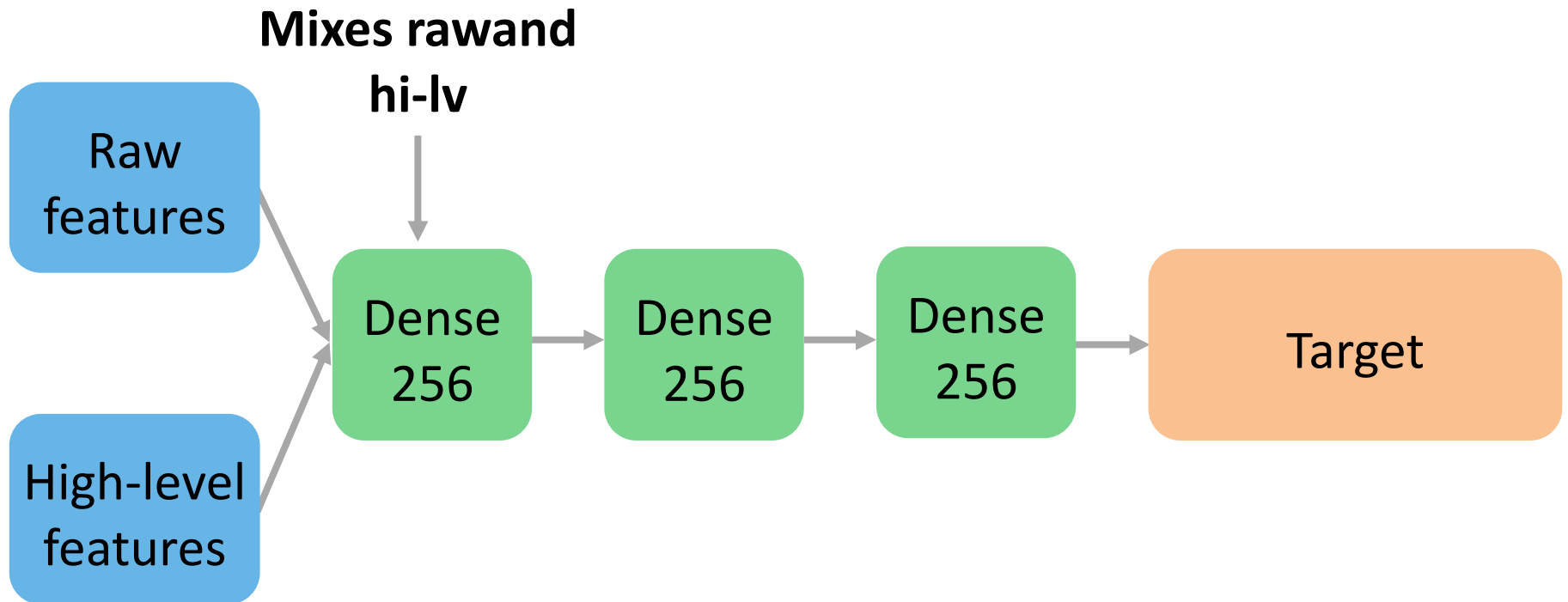
# Deep learning is a language

Naive approach



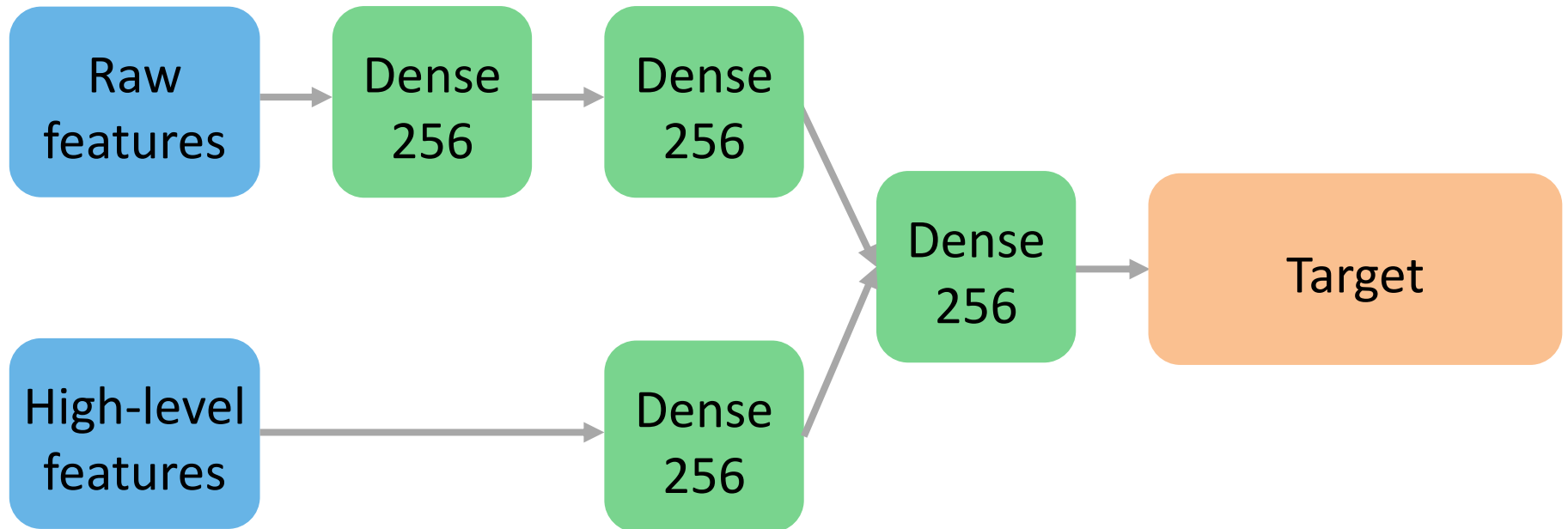
# Deep learning is a language

Naive approach



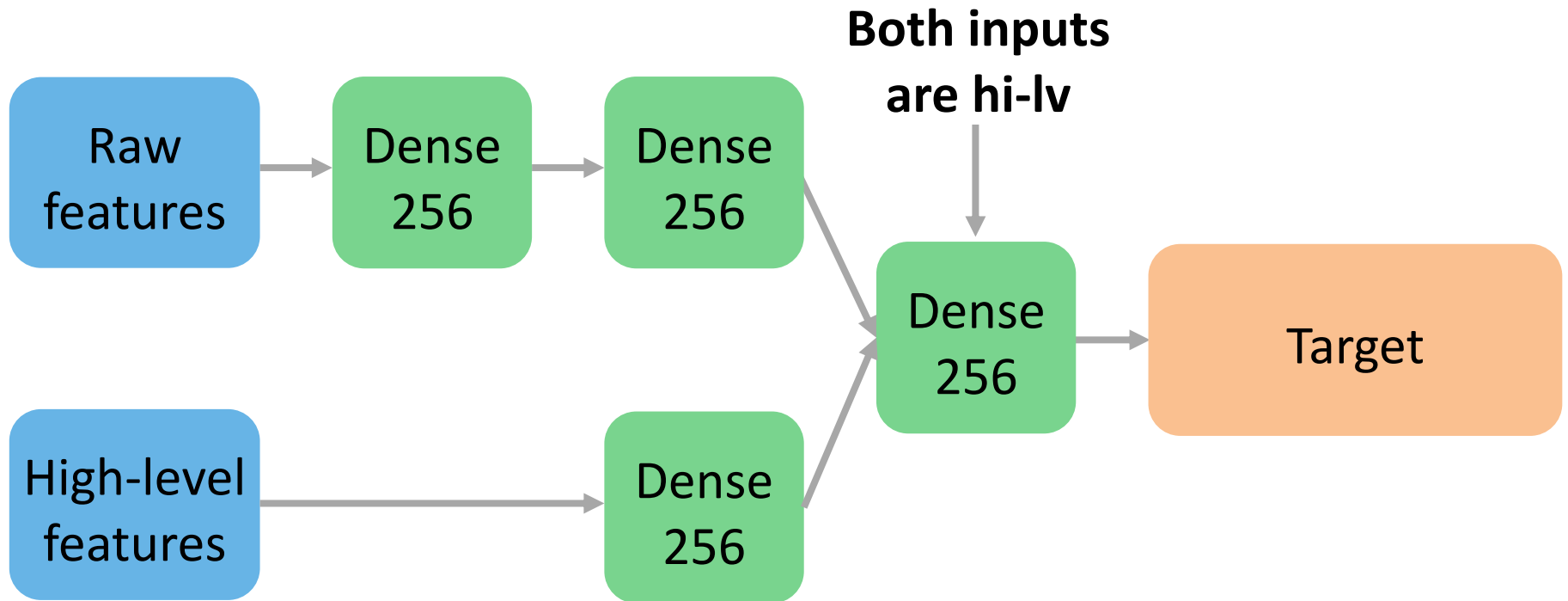
# Deep learning is a language

Less naïve approach



# Deep learning is a language

Less naïve approach



# Deep learning is a language

“Image features should be less important”  
*if that's what you want to say*

