Learning from
multiple tasks

Transfer learning

deeplearning.ai

# Transfer learning



image recognition $(x,y)$ ← pre-training

$\rightarrow (x,y)$ — fine-tuning

radiology image

diagnoses

$\hat{y}$

$w^{[L]}, b^{[L]}$

$\hat{y}$

image recognition
$\rightarrow$ 1,000,000   100

radiology diagnosis
$\rightarrow$ 100   1000

x

audio

$\hat{y}$

Speech recognition
10k   10,000h

wakeword / triggerword detection   1h
50h

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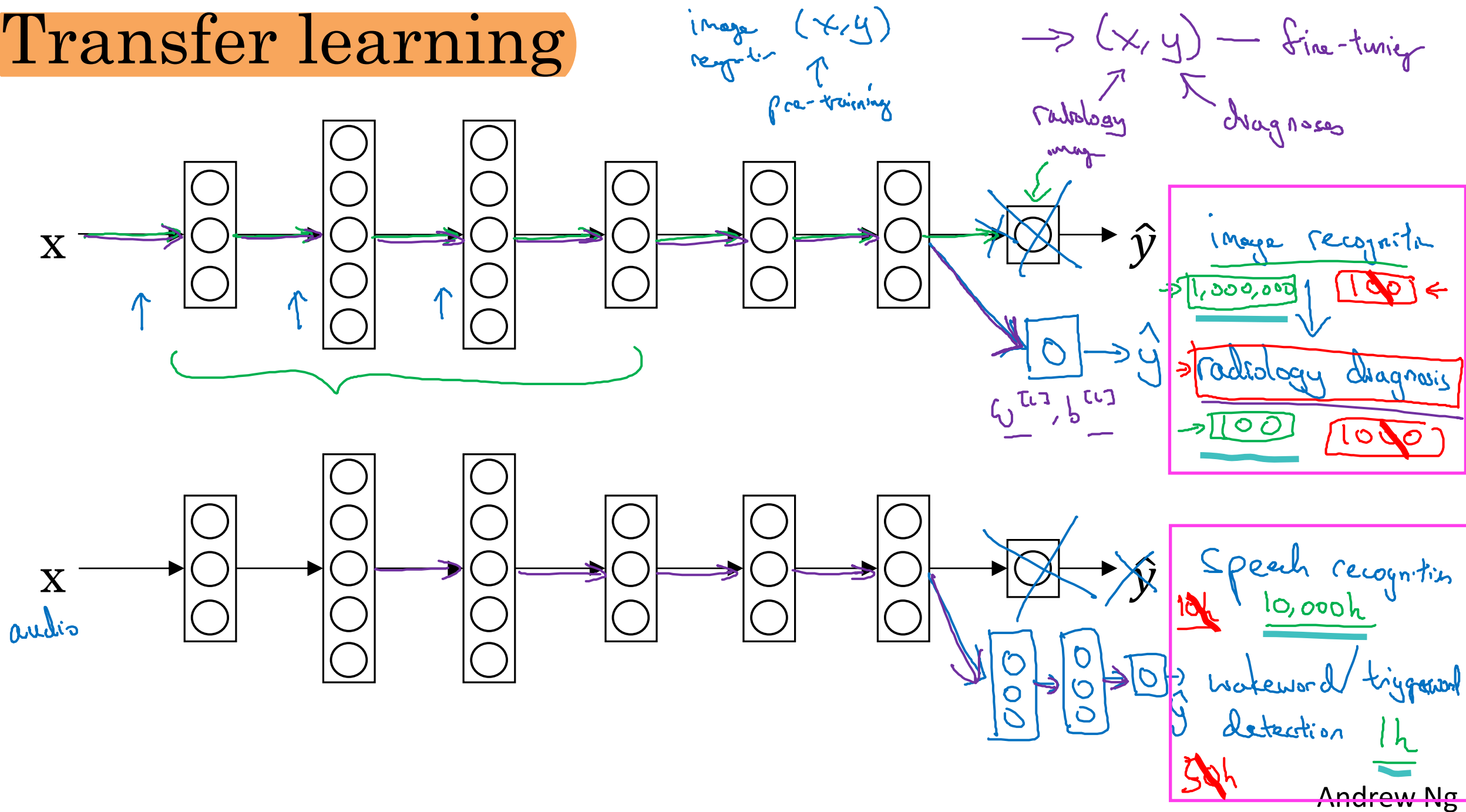
# When transfer learning makes sense

*Transfer from A → B*

(Same input format)

- Task A and B have the same input x.

- You have a lot more data for Task A than Task B.

- Low level features from A could be helpful for learning B.

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