



deeplearning.ai

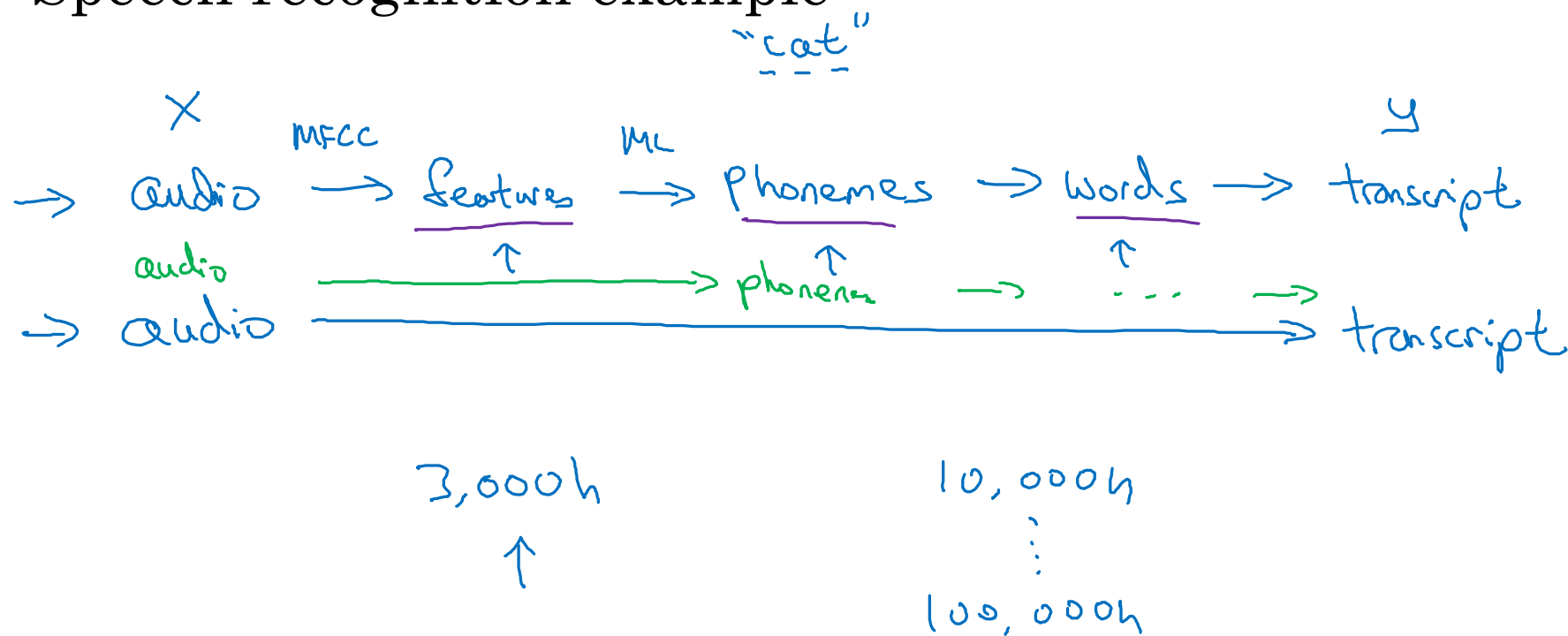
End-to-end deep  
learning

---

What is  
end-to-end  
deep learning

# What is end-to-end learning?

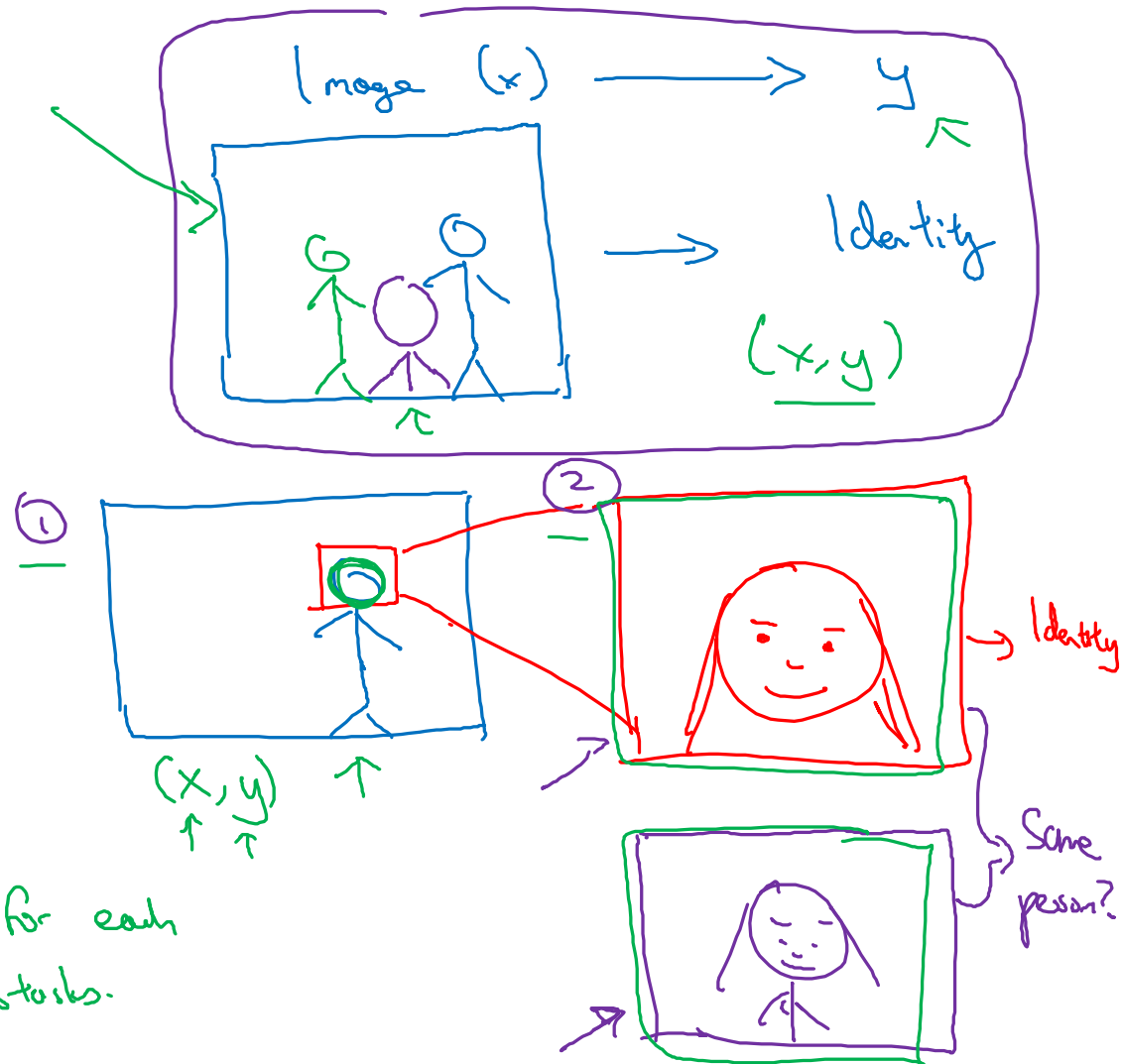
## Speech recognition example



# Face recognition



[Image courtesy of Baidu]



Have data for each  
of 2 subtasks.

Andrew Ng

# More examples

## Machine translation

$(x, y)$   
English  $\nearrow$   $\nwarrow$  French

English  $\rightarrow$  text analysis  $\rightarrow \dots \rightarrow$  French  
English  $\xrightarrow{\hspace{10em}}$  French

## Estimating child's age:



Image  $\xrightarrow{\textcircled{1}}$  bones  $\xrightarrow{\textcircled{2}}$  age

Image  $\xrightarrow{\hspace{10em}}$  age  $\leftarrow$