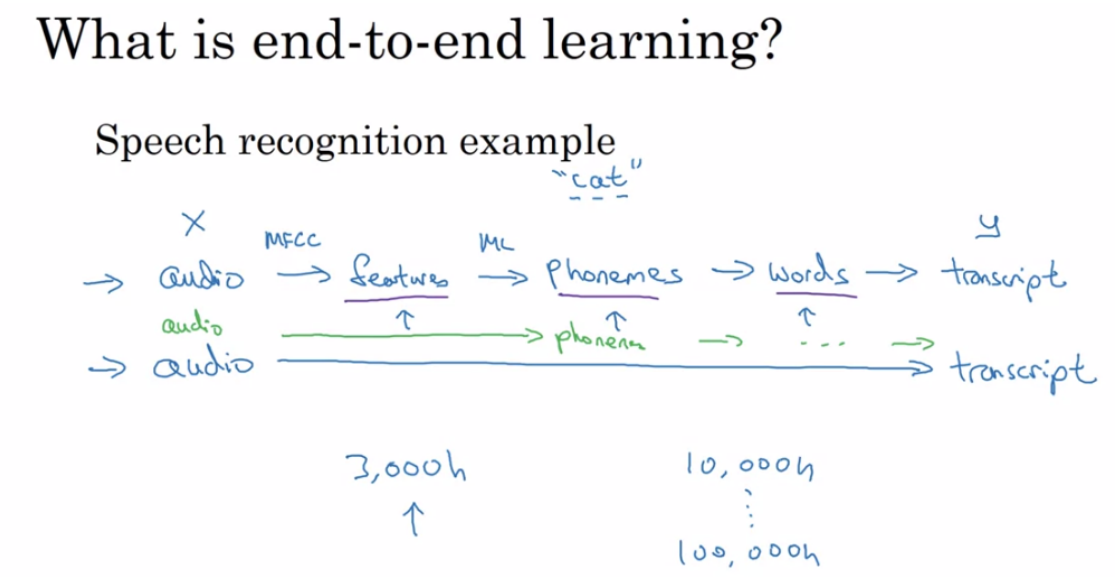
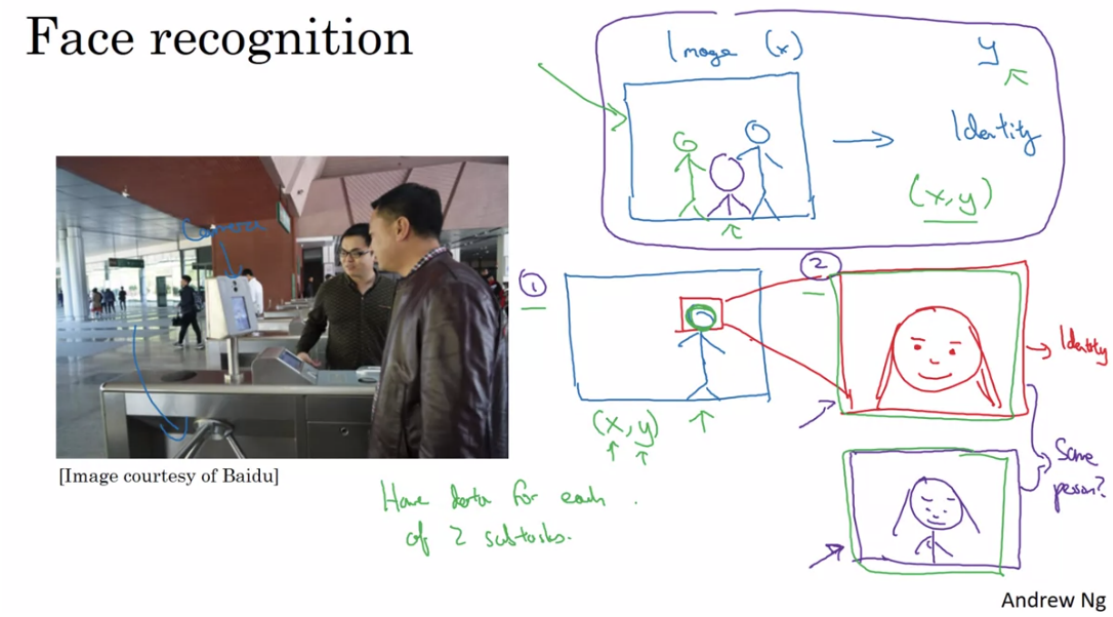
**Week 2-3 End-to-end Deep Learning**

**笔记本:** DL 3 - Structuring ML Projects
**创建时间:** 2021/1/11 14:32 **更新时间:** 2021/1/11 14:43




So when you have a smaller data set, the more traditional pipeline approach actually works just as well. Often works even better. And you need a **large data set** before the end-to-end approach really shines.

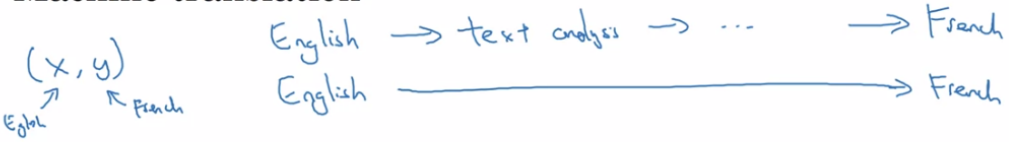



This second approach allows the learning algorithm or really two learning algorithms to solve two much simpler tasks and results in overall better performance

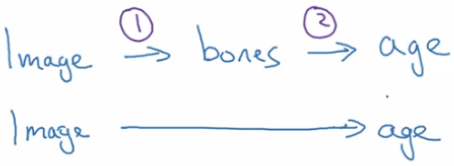
So why is it that the two step approach works better? There are actually two reasons for that. One is that each of the two problems you're solving is actually **much simpler**. But second, is that you have **a lot of data for each of the two sub-tasks.**

## More examples

Machine translation




Estimating child's age:

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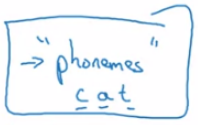
# When to use

## Pros and cons of end-to-end deep learning

Pros:

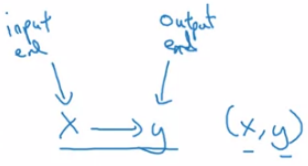
- Let the data speak




- Less hand-designing of components needed

Cons:


- May need large amount of data
- Excludes potentially useful hand-designed components

Data.

Hand-design.

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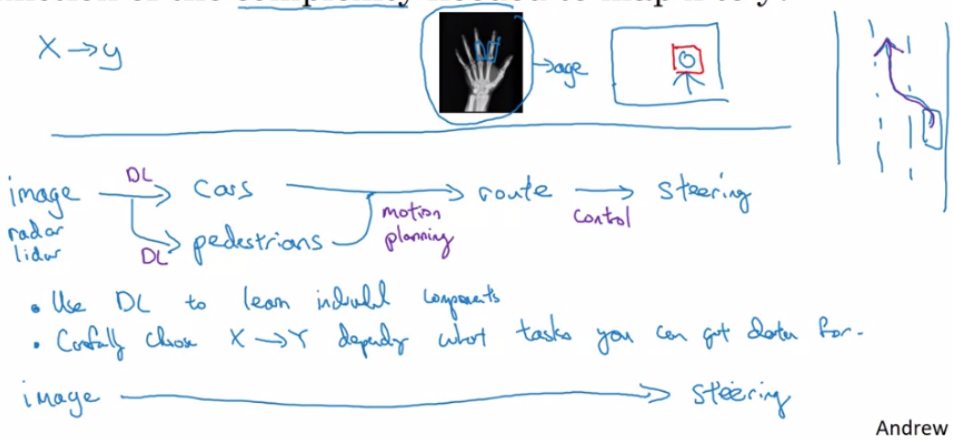
# Applying end-to-end deep learning

Key question: Do you have sufficient data to learn a function of the complexity needed to map x to y?




Andrew Ng