# APPLICATION EXAMPLE: PHOTO OCR

## Photo OCR

Problem Description and Pipeline

* Photo Optical Character Recognition
* Complex machine learning system put together
* Pipeline: resource allocation
* Computer vision problems
* Artificial data synthesis
* Pipeline
* Text detection
* Character segmentation
* Character classification

Sliding Windows

* Text detection
* Aspect ratios
* Step-size/stride parameter
* Expansion operator

Getting Lots of Data and Artificial Data

* Generating/creating from new data scratch
* Amplification by introducing distortions
* Make sure to have a low bias classifier
* Plot learning curves
* No. of features/hidden units
* What would it take to get 10x as much data?
* Artificial data synthesis
* Collect/label manually
* Crowd source

Ceiling Analysis: What Part of the Pipeline to Work on Next

* Simulate 100% stage accuracy

## Conclusion

Summary and Thank You