

File Name: T-ICML-O\_6\_I1\_summary

Format: Presenter in Studio

Presenter: Alex Hanna

# Agenda

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## Introduction

Linear and DNN models

Convolutional neural networks

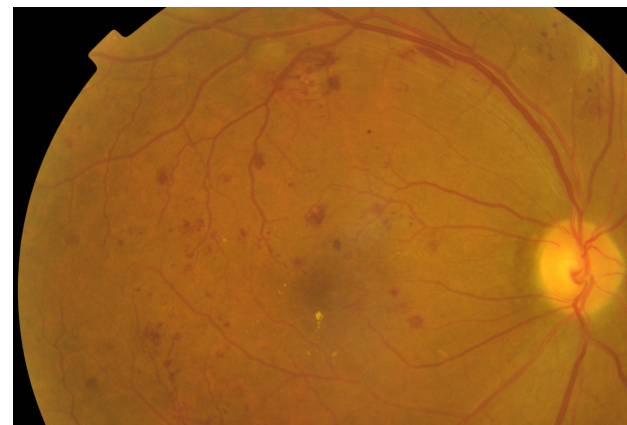
Dealing with Data Scarcity

Going Deeper Faster

Pre-built models



Image classification  
**automates tasks** that are easy  
(and not easy) for humans



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**Linear and DNN models**

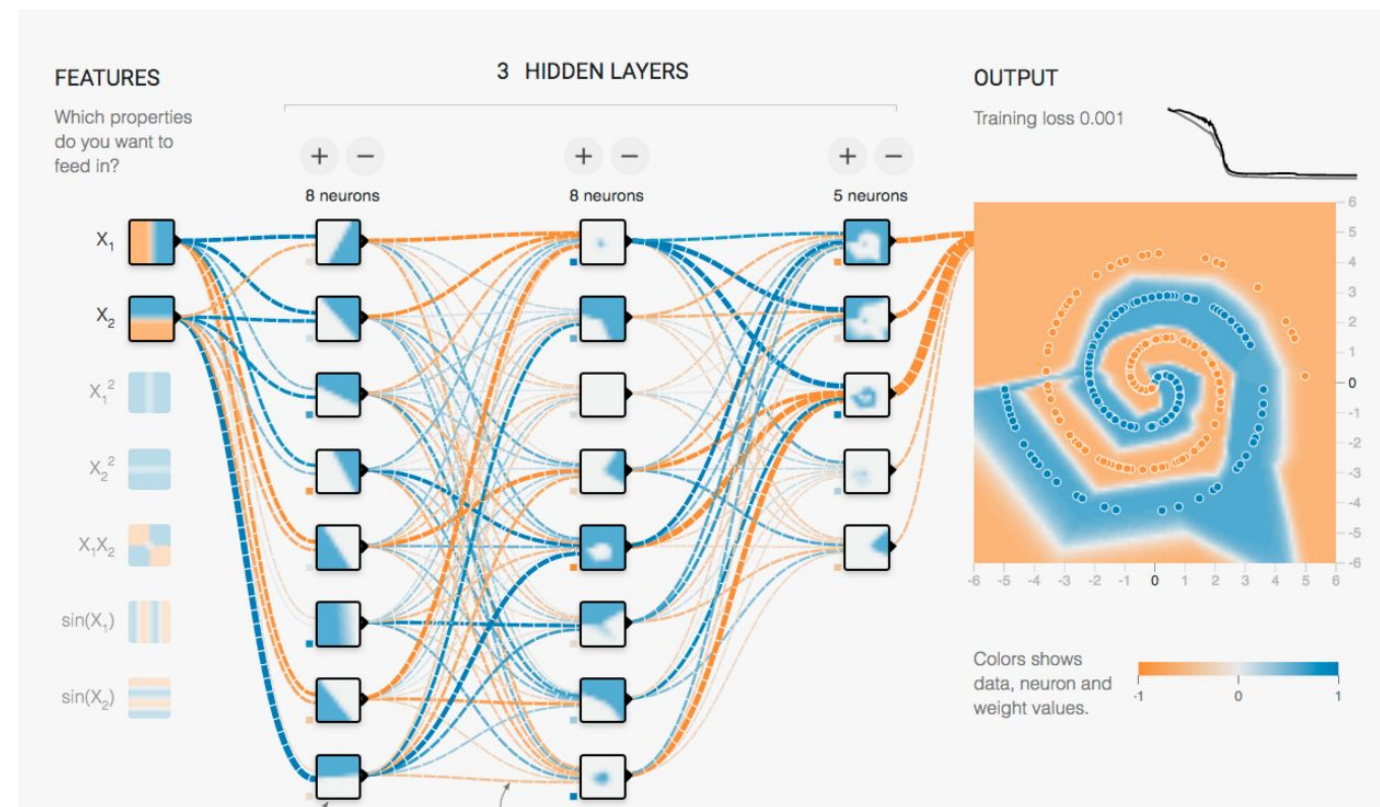
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# Why not have a really large DNN?



1. Computational power
2. Training time
3. Likely to overfit

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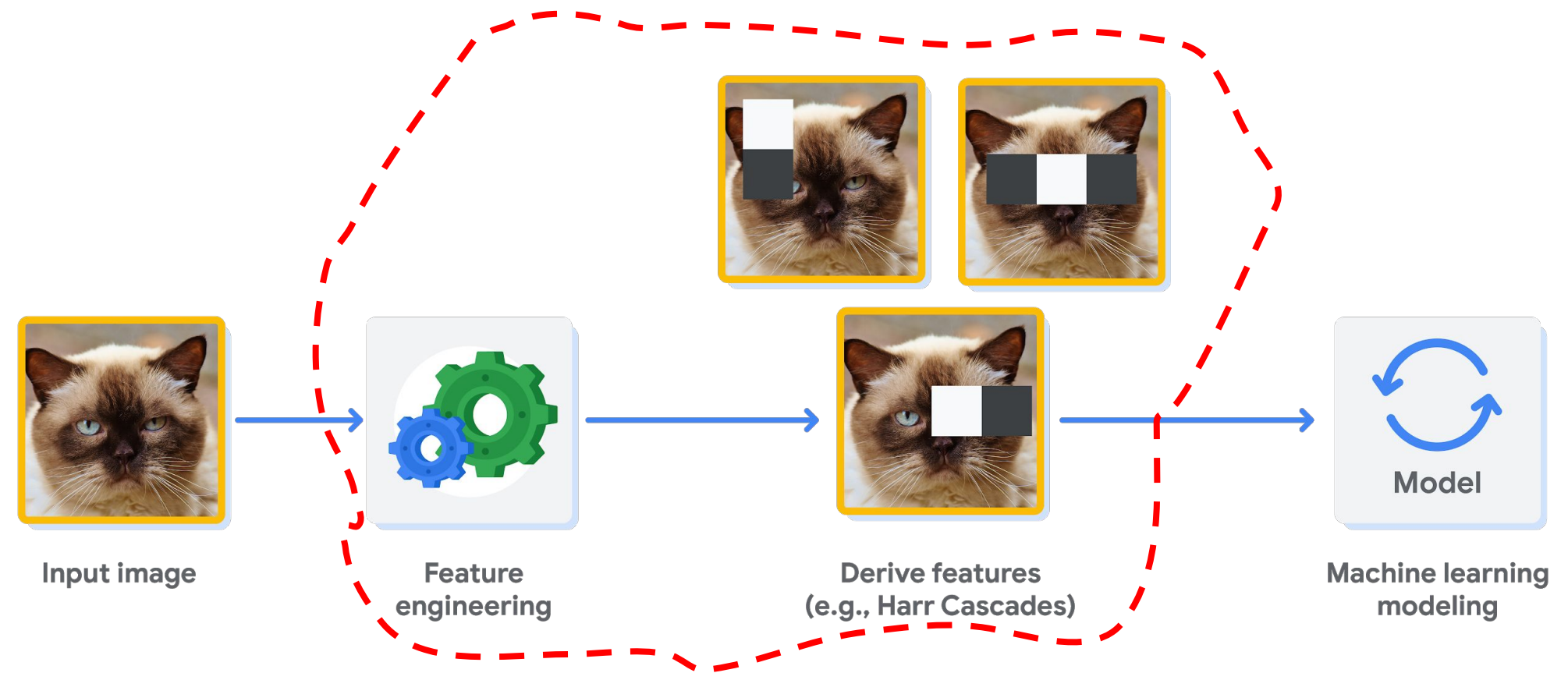
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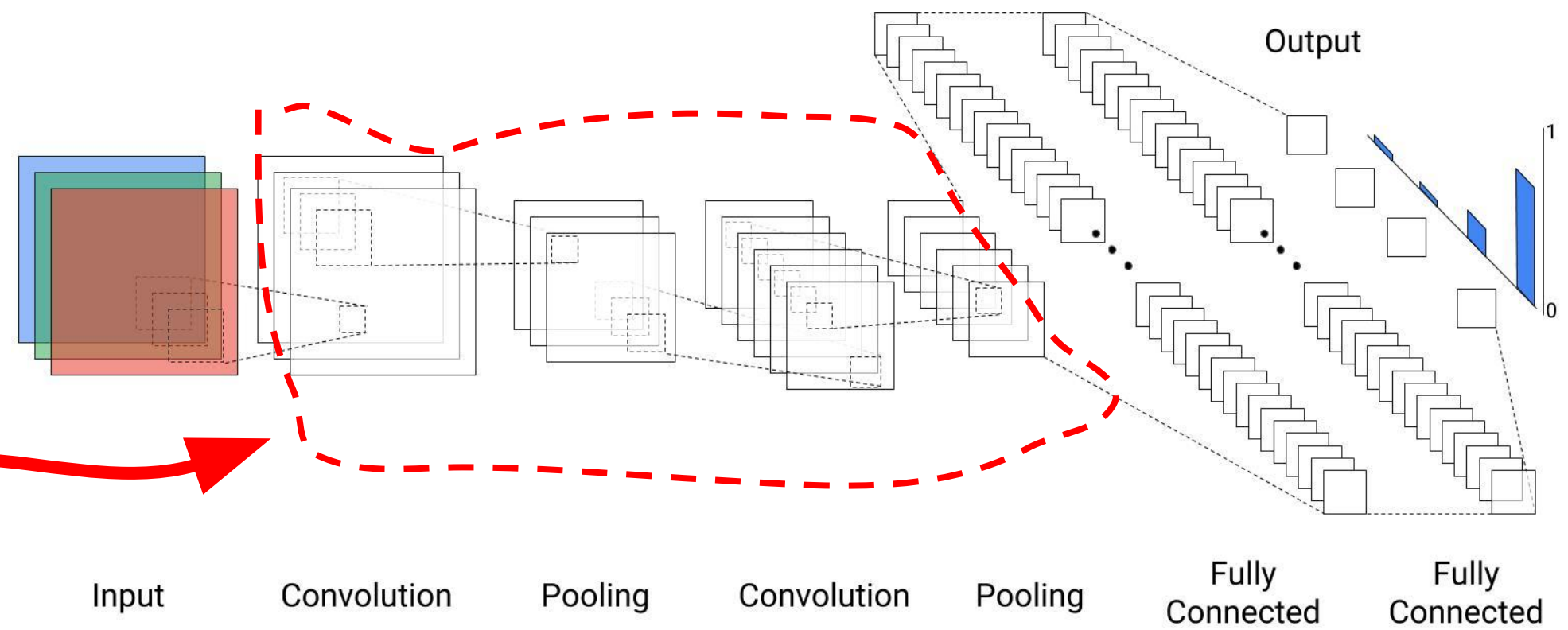


# Pre-2012



# Post-2012

CNN model learns features itself during training



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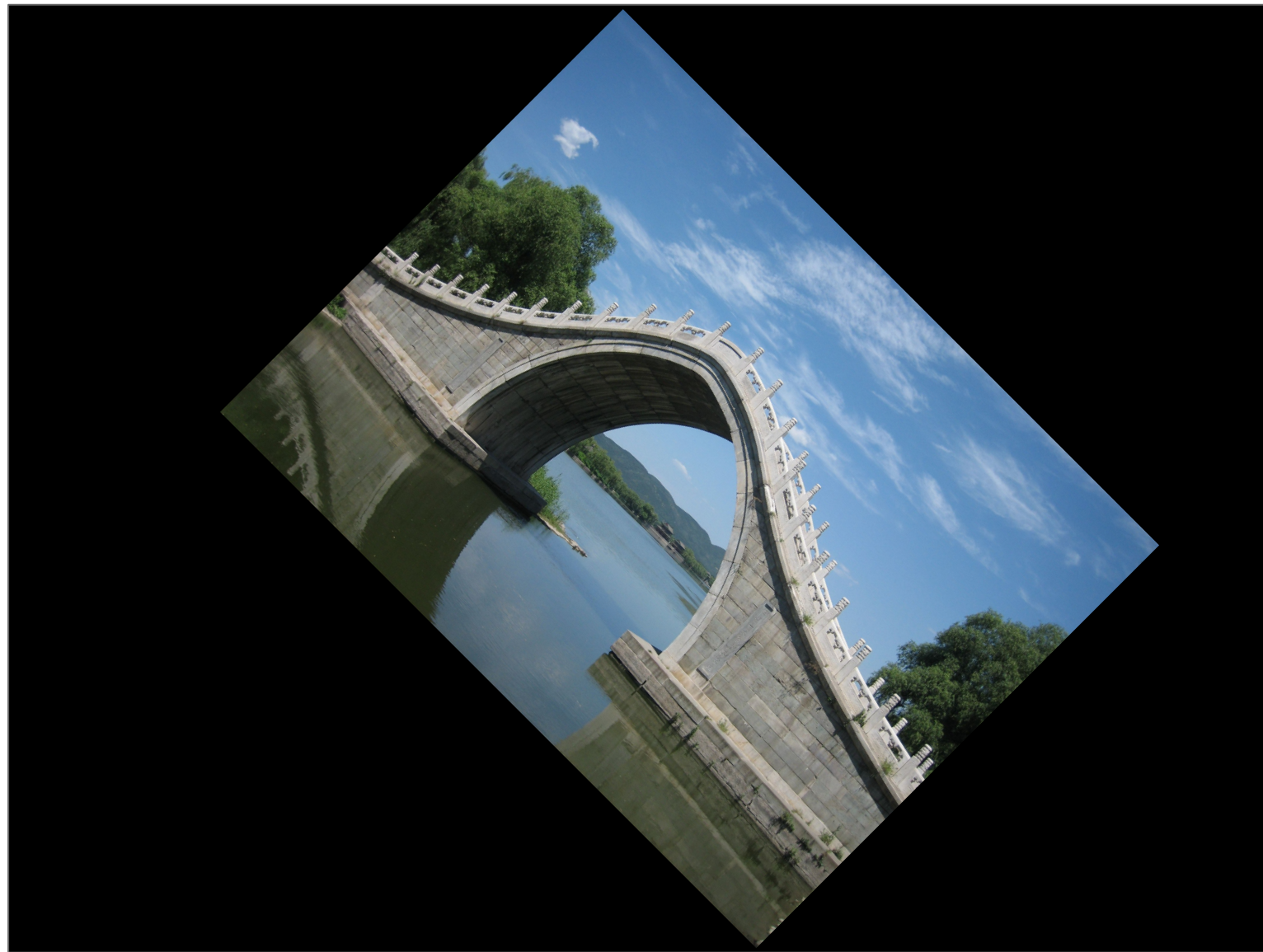
**Dealing with Data Scarcity**

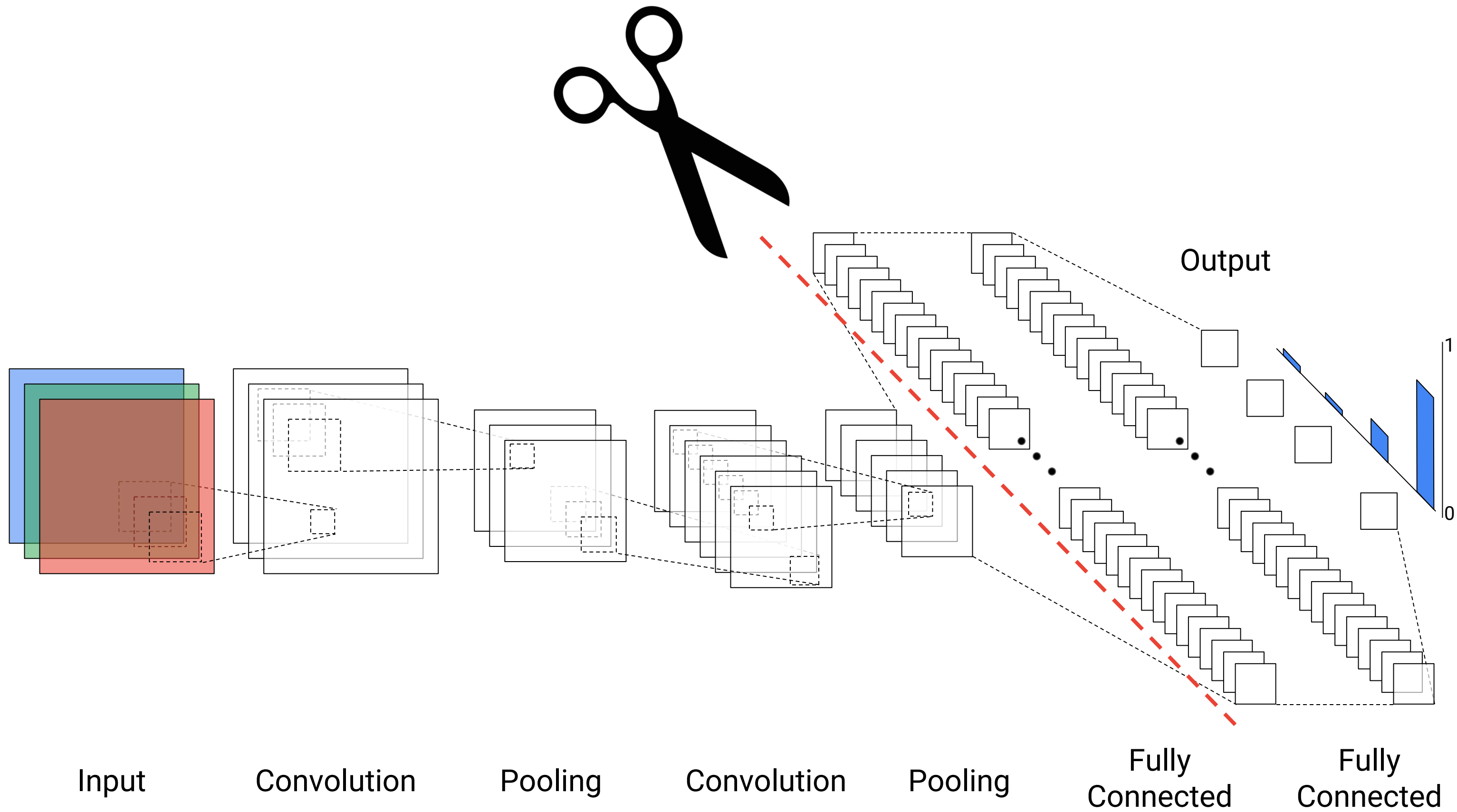
Going Deeper Faster

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# Common image augmentation techniques





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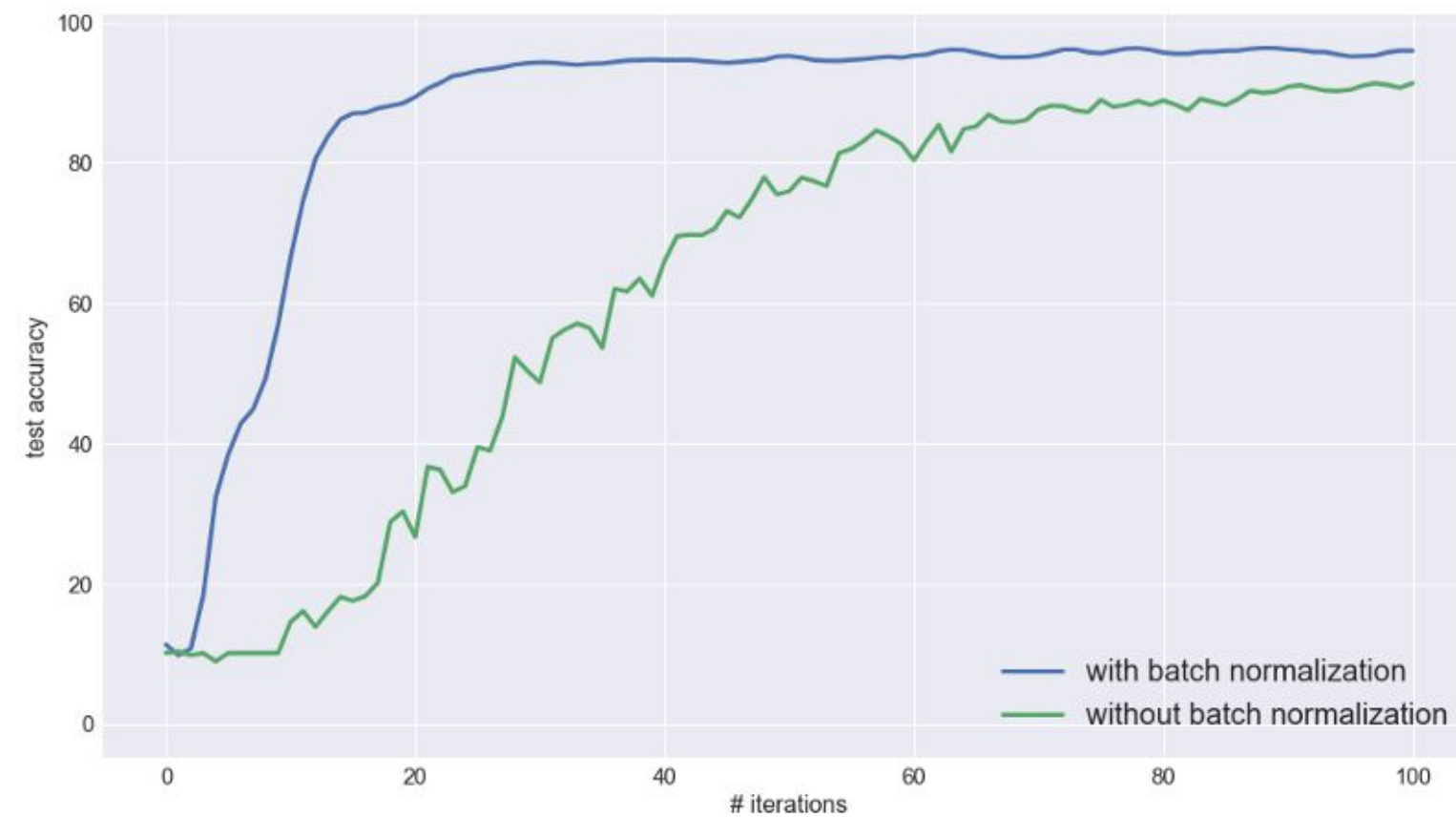
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# Batch normalization helps you train faster



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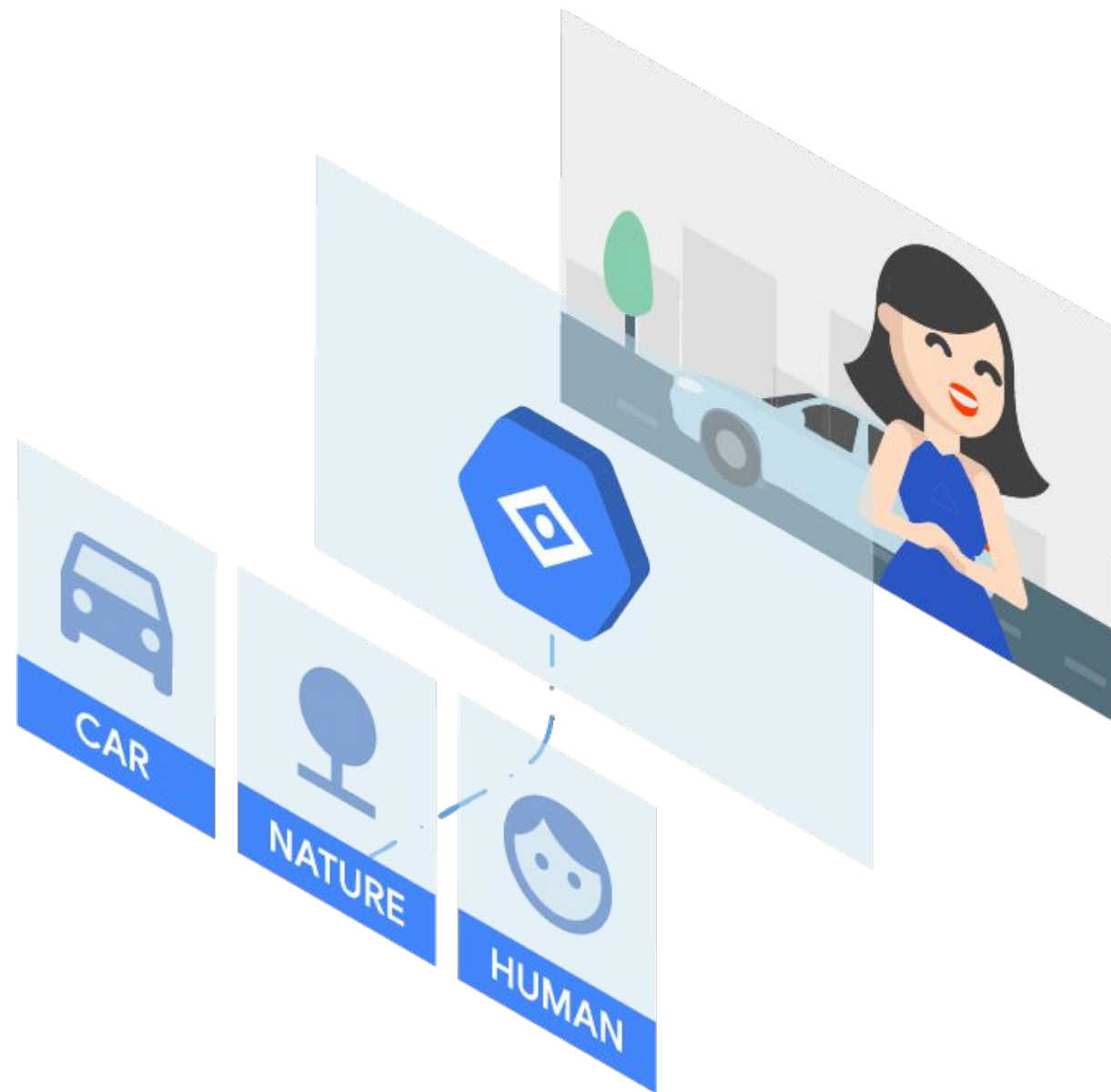
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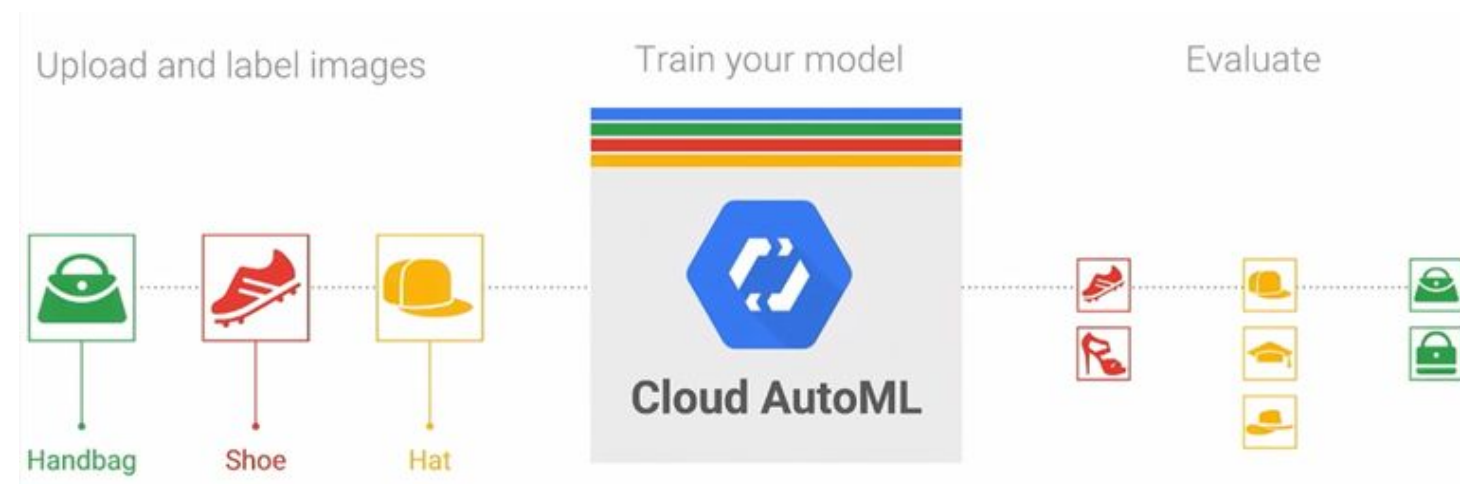
Going Deeper Faster

**Pre-built models**

# Image Recognition with the Cloud Vision API



# AutoML is like codeless transfer learning





# Specialization

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End-to-End Lab on Structured Data

Production ML Systems

**Image Classification Models**

Sequence Models

Recommendation Systems