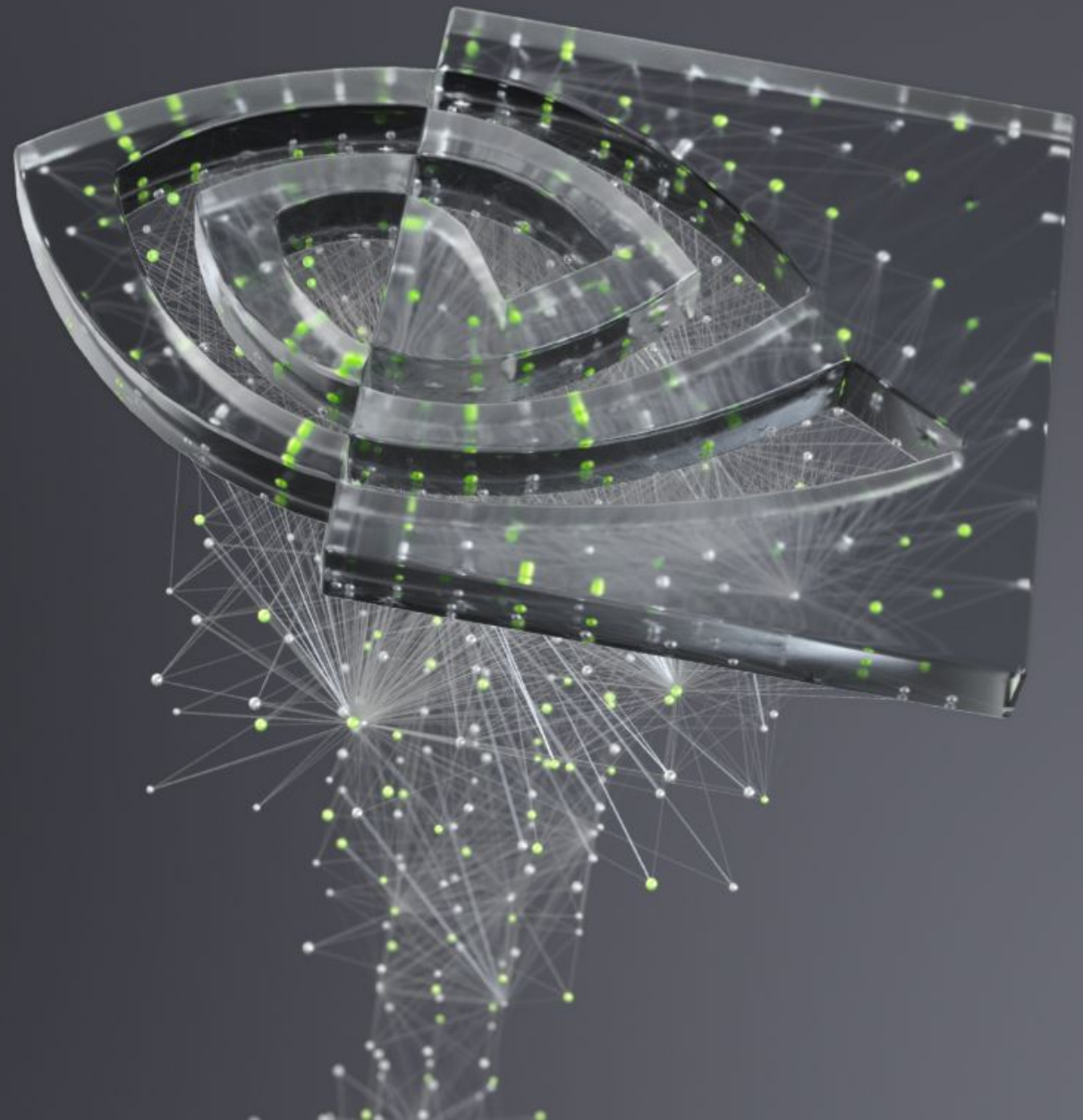

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FUNDAMENTALS OF DEEP LEARNING

Part 5: Pre-trained Models

AGENDA

- Part 1: An Introduction to Deep Learning
- Part 2: How a Neural Network Trains
- Part 3: Convolutional Neural Networks
- Part 4: Data Augmentation and Deployment
- Part 5: Pre-trained Models
- Part 6: Advanced Architectures

AGENDA – PART 5

- Review so far
- Pre-trained Models
- Transfer Learning

REVIEW SO FAR

REVIEW SO FAR

- Learning Rate
- Number of Layers
- Neurons per Layer
- Activation Functions
- Dropout
- Data

PRE-TRAINED MODELS

PRE-TRAINED MODELS

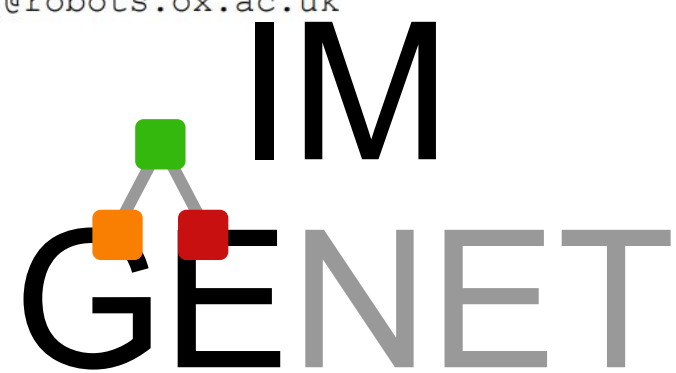
TensorFlow Hub

PYTORCH
HUB

PRE-TRAINED MODELS

VERY DEEP CONVOLUTIONAL NETWORKS FOR LARGE-SCALE IMAGE RECOGNITION

Karen Simonyan* **& Andrew Zisserman+**
Visual Geometry Group, Department of Engineering Science, University of Oxford
{karen,az}@robots.ox.ac.uk



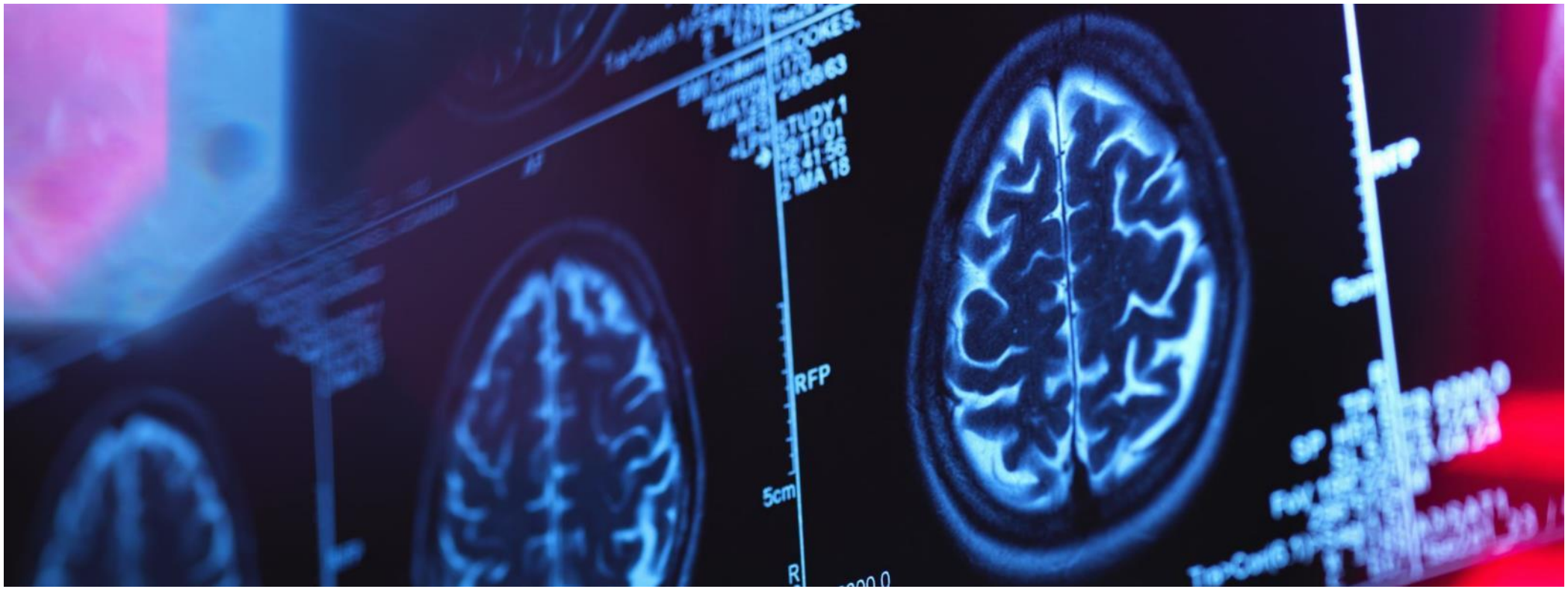
THE NEXT CHALLENGE

An Automated Doggy Door

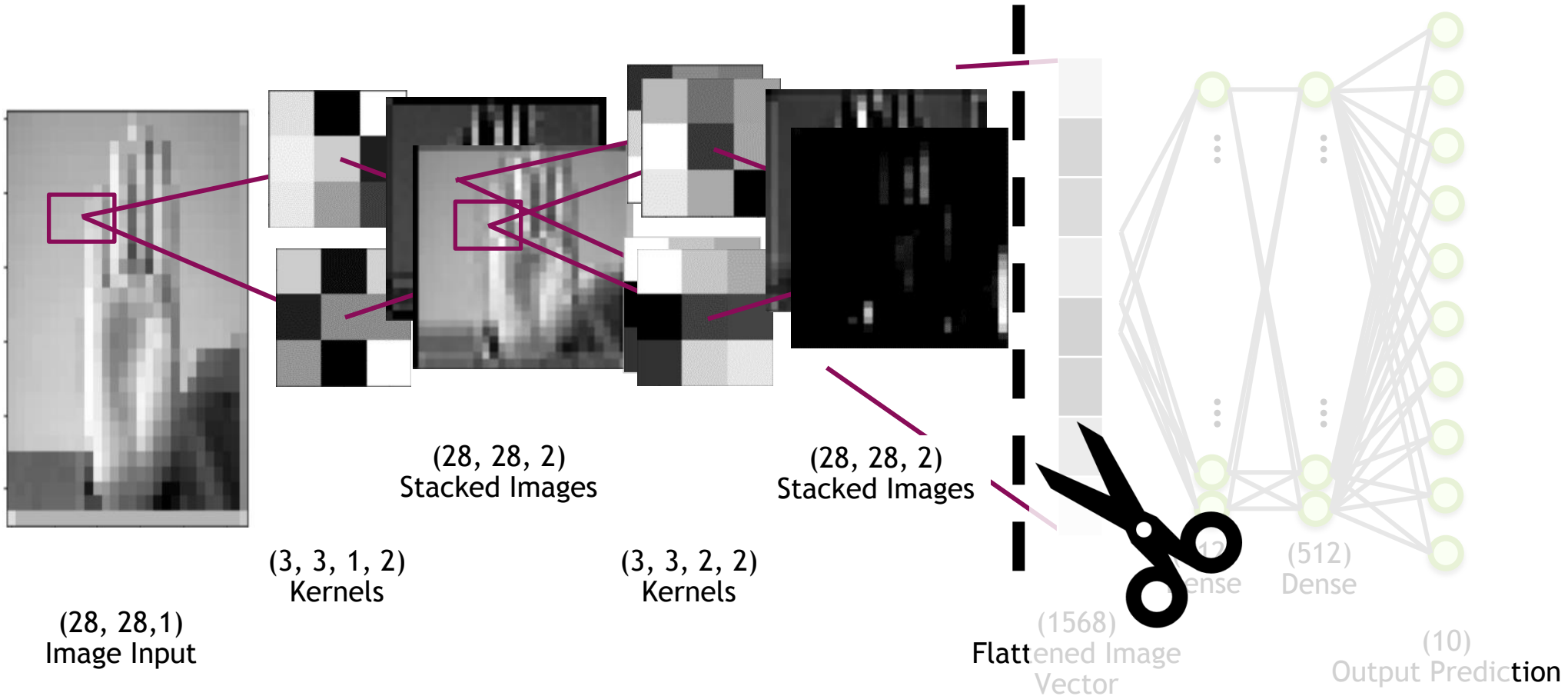
TRANSFER LEARNING

THE CHALLENGE AFTER
An Automated Presidential Doggy Door

TRANSFER LEARNING



TRANSFER LEARNING



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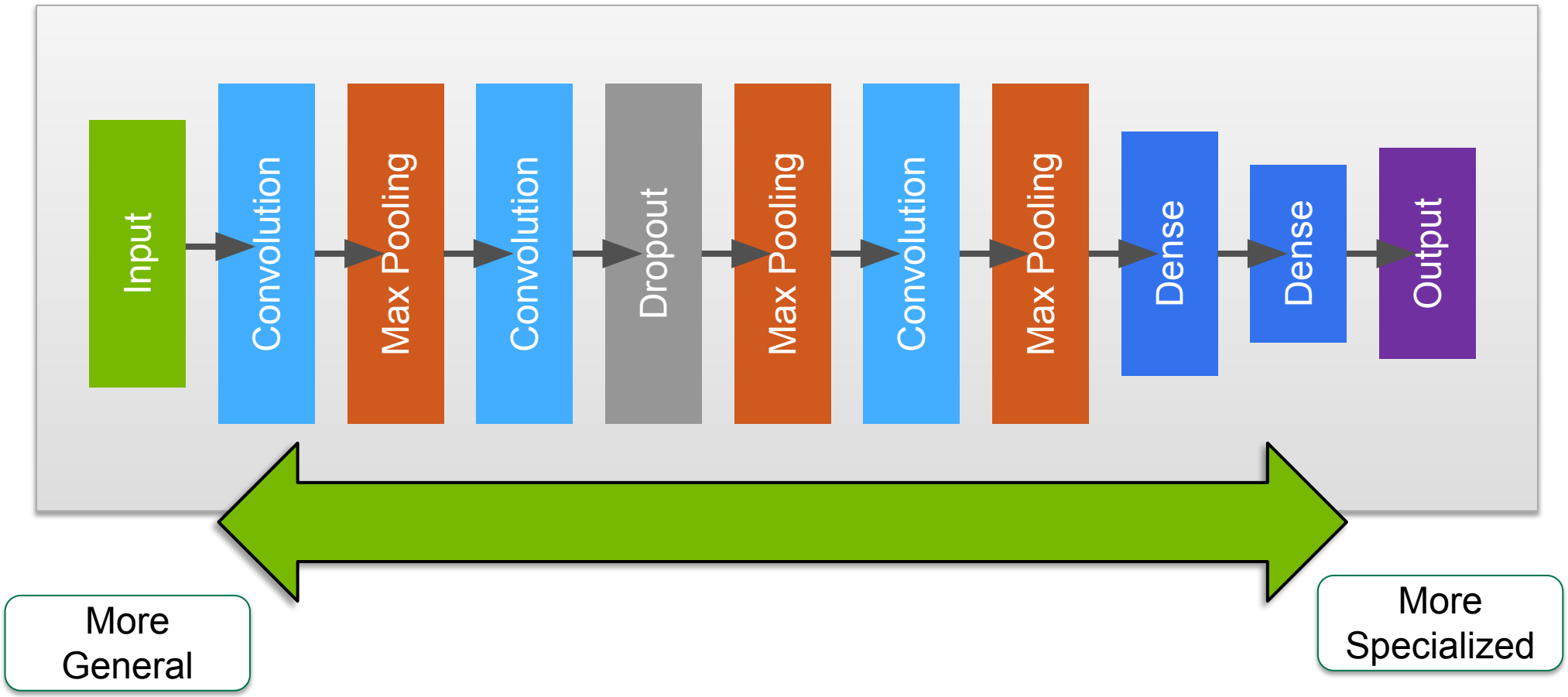

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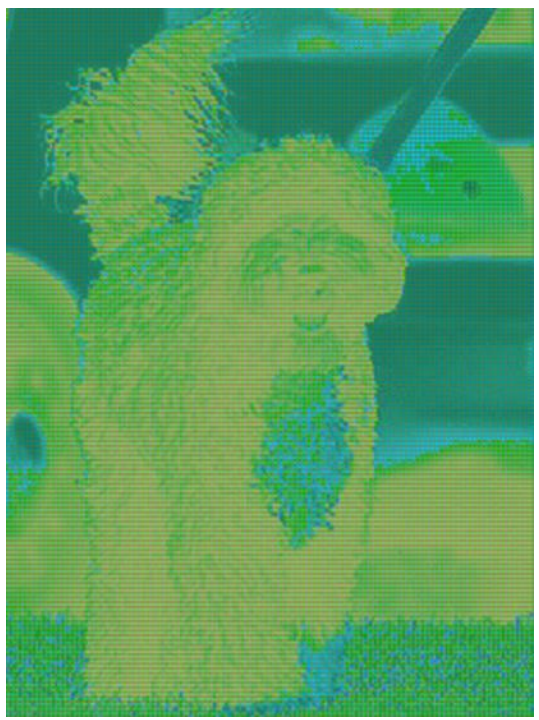
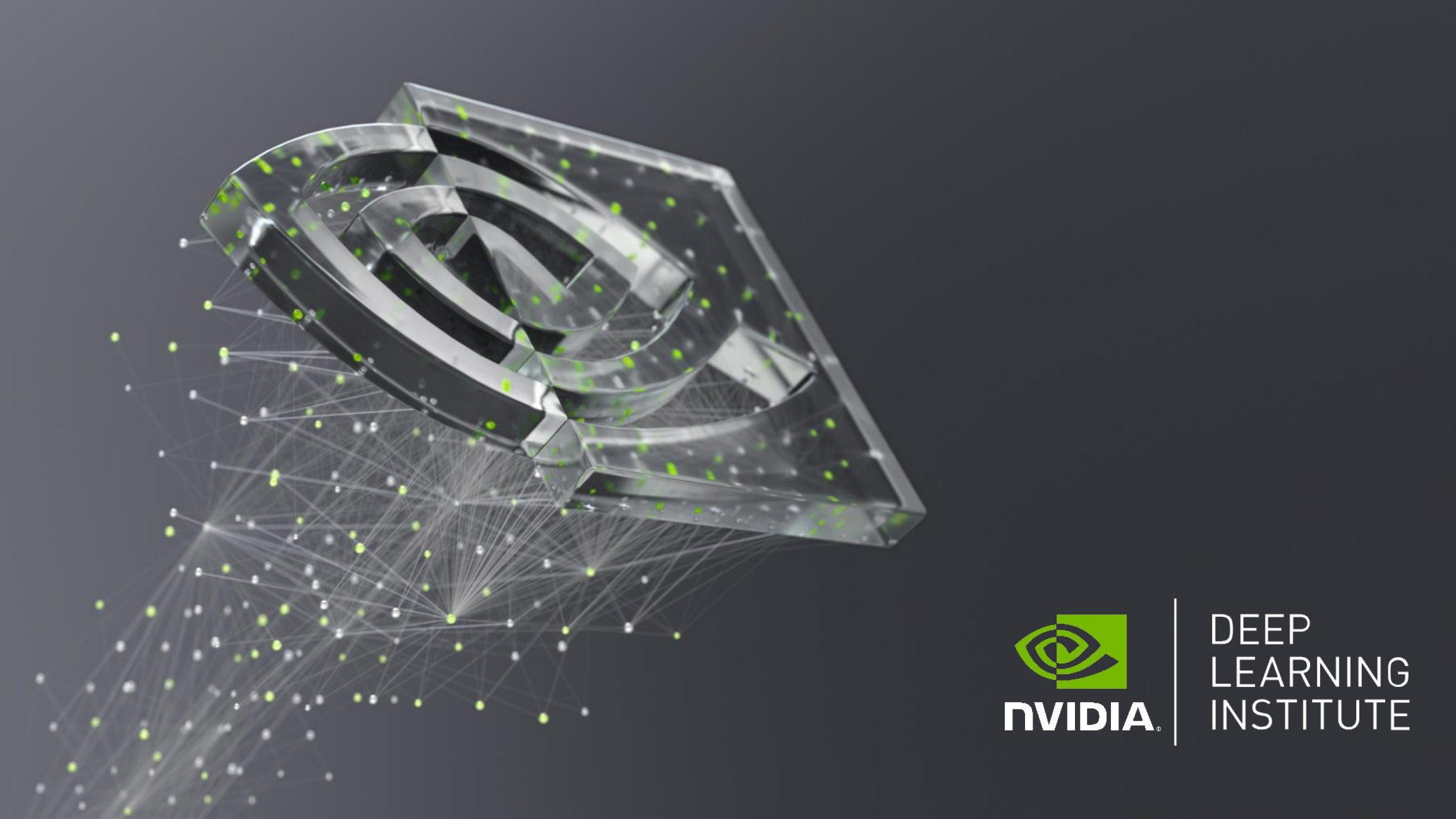
TRANSFER LEARNING

Freezing the Model?

TRANSFER LEARNING



LET’S GET STARTED!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