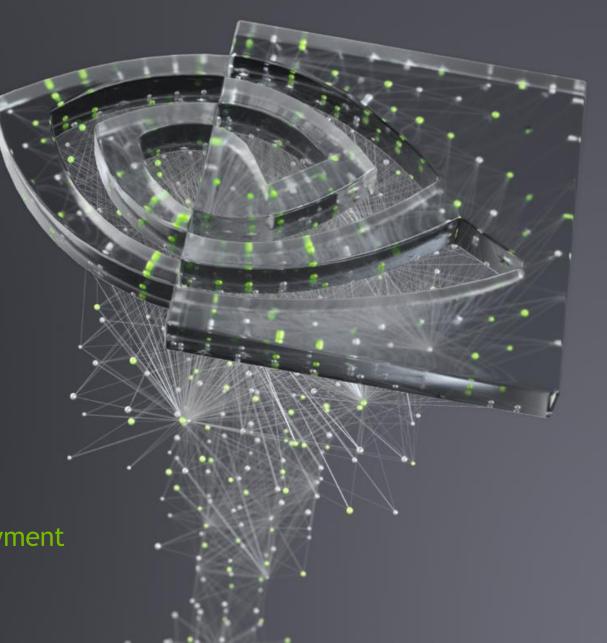


FUNDAMENTALS OF DEEP LEARNING

Part 4: Data Augmentation and Deployment



AGENDA

Part I: 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 4

- Data Augmentation
- Model Deployment

RECAP OF THE EXERCISE

Analysis

- CNN increased validation accuracy
- Still seeing training accuracy higher than validation

RECAP OF THE EXERCISE

Analysis

- CNN increased validation accuracy
- Still seeing training accuracy higher than validation

Solution

- Clean data provides better examples
- Dataset variety helps the model generalize









DATA AUGMENTATION

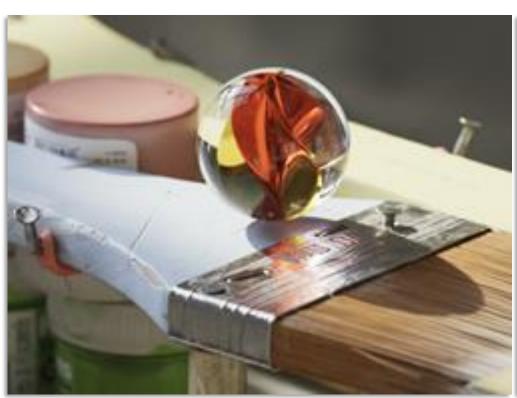




IMAGE FLIPPING

Horizontal Flip



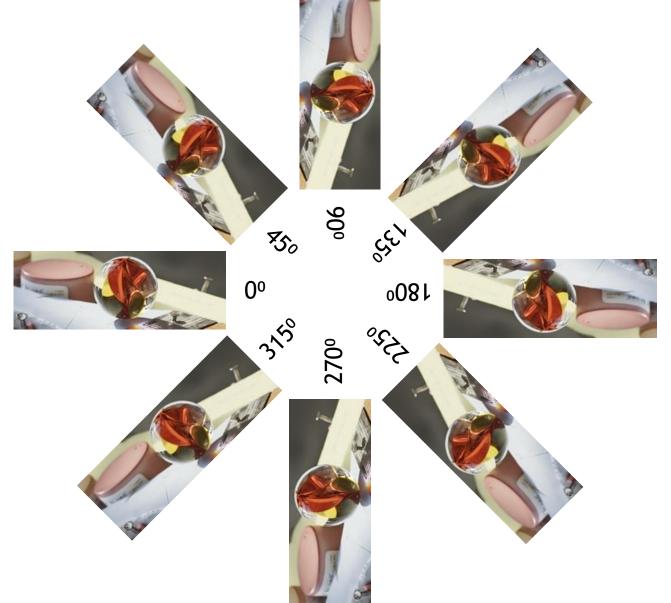






Vertical Flip

ROTATION





ZOOMING

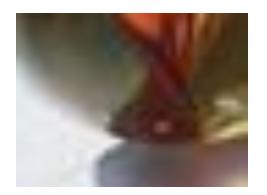


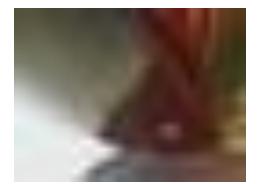














WIDTH AND HEIGHT SHIFTING



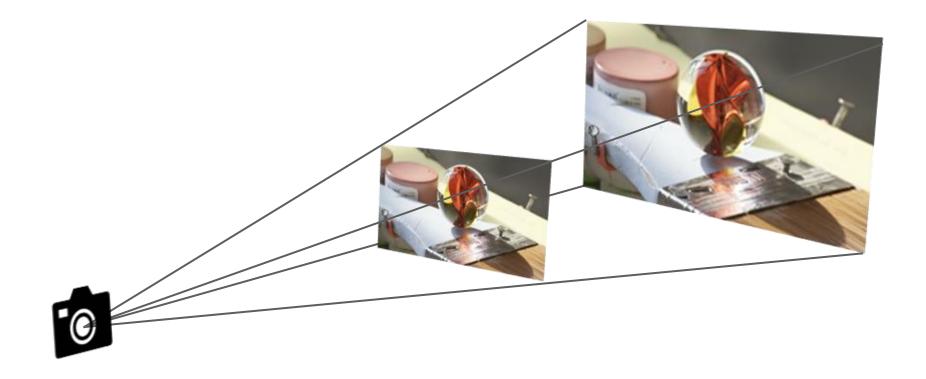








HOMOGRAPHY



BRIGHTNESS











CHANNEL **SHIFTING**









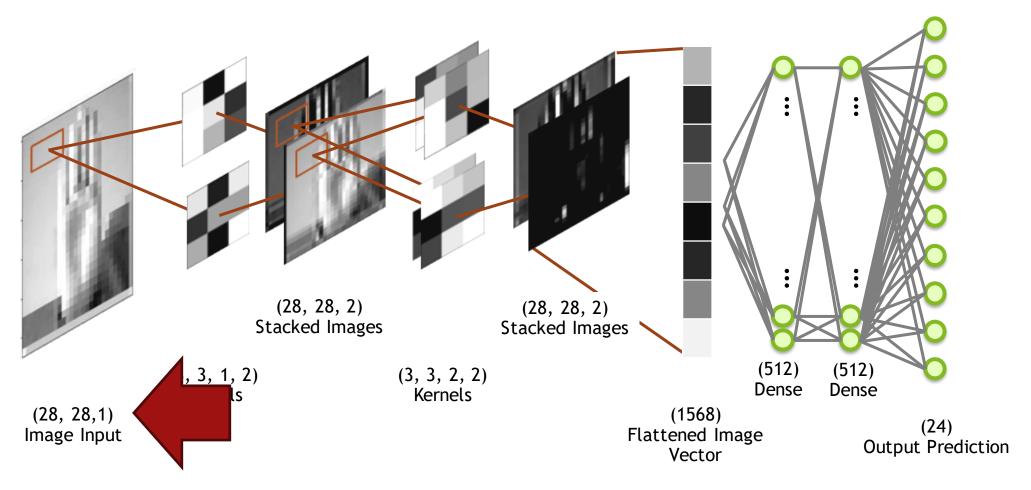








MODEL DEPLOYMENT



MODEL DEPLOYMENT

Training
Batch Input











Convolution

Max Pooling

•••



MODEL DEPLOYMENT

