



Workshop on Convolutional Neural Networks for
Computer Vision and practical applications in the
industry.

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Lesson 01: Introduction

- Convolutional Neural Networks
 - Architecture
- Understanding how Neural Networks works
 - Loss function meaning
 - Optimization methods
- Getting started with Neural Networks
 - Frameworks for network training/inference
 - Setting up an ML environment
 - A simple pet breed detector

Lesson 02: Industrial applications

- CNNs applications
 - Industry (safety, quality assurance, etc.)
- Image memorability
 - What makes an image memorable? can be detected by machines?
- People tracking
 - A pipeline for People Tracking and behavior recognition
 - building a dataset for people tracking/detection
 - AmazonGo
- Psychographics
 - personality traits
 - what your pictures tell about your personality
- Modern hardware for computer vision
 - General Purpose on GPU (GPGPU)
 - GPU rig (training on Nvidia graphic cards)
 - Computer vision at the edge (Intel Movidius, Nvidia Jetsons, Google Coral)
- What's next?
 - GANs
 - Reinforcement learning for autonomous agents