

Computer vision

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Preface

This is a live document, and is full of gaps, mistakes, typos etc.

Part I

Computer vision

Chapter 1

Classifying written characters

1.1 Character recognition

1.1.1 MNIST

Chapter 2

Classifying images

2.1 Image recognition

2.1.1 CIFAR-10

2.1.2 ImageNet

Chapter 3

Facial recognition

3.1 Facial recognition

3.1.1 FERET

Chapter 4

Computer vision

4.1 Camera vision

4.1.1 Camera inputs

4.2 Classifying images

4.3 Semantic image segmentation

4.4 Building 3D models

4.4.1 Multi-view CNNs

4.4.2 Volumetric models

4.4.3 Point clouds

4.4.4 Polygon mesh

4.4.5 Generative Query Network (GQN)

4.4.6 Primitive-based CAD

4.4.7 3D ShapeNets

4.4.8 Building 3D models from scans

4.5 LIDAR

4.5.1 LIDAR

4.5.2 Classification with voxels

4.5.3 Absolute risk aversion

Correspondence (2 models of humans in different poses; understand where each part of one relates to a specific part of the other)

4.5.4 Parsing

Multitple objects in scene, objects have parts segmentation.