

Computer Vision Systems Programming VO

Computer Vision: Past, Present, Future

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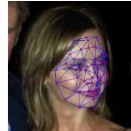
Topics

Selection of past, present, future CV algorithms and applications

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Images from LeCun et al. 1989, Shotton et al. 2011, Taigman et al. 2013

What is CV?

Make computers understand images and videos

- ▶ Different levels of understanding

CV is hard

- ▶ Inverse (ill-posed) problem

Still, CV has been successfully used in a variety of applications

- ▶ This lecture introduces a few
- ▶ More detailed discussion in upcoming lectures

1963: Pose Estimation

Blocks World by Larry Roberts

Edge based pose estimation of polyhedra

Marks the Advent of CV

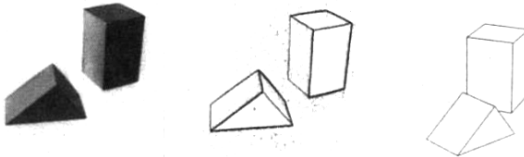


Image from Roberts' thesis

LeCun, Yann et al. (1989). **Backpropagation applied to handwritten zip code recognition.** Neural computation.

Shotton, Jamie et al. (2011). **Real-Time Human Pose Recognition in Parts from a Single Depth Image.** CVPR.

Taigman, Yaniv et al. (2013). **Deepface: Closing the gap to human-level performance in face verification.** CVPR.