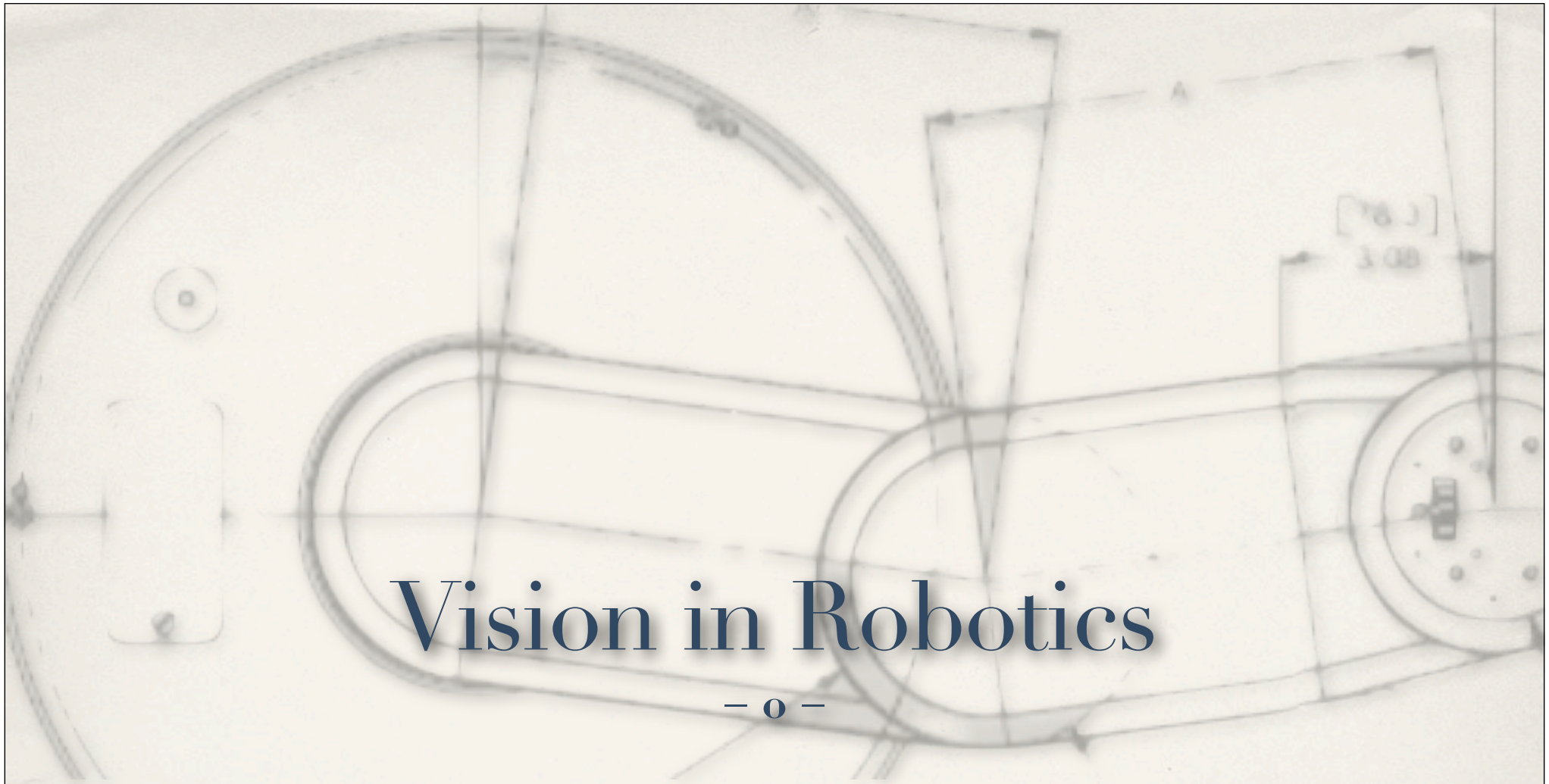


Vision in Robotics

– o –

Bojan Jerbić, Zdenko Kovačić, Ivan Petrović

University u Zagrebu

Zagreb, FER, 2012.

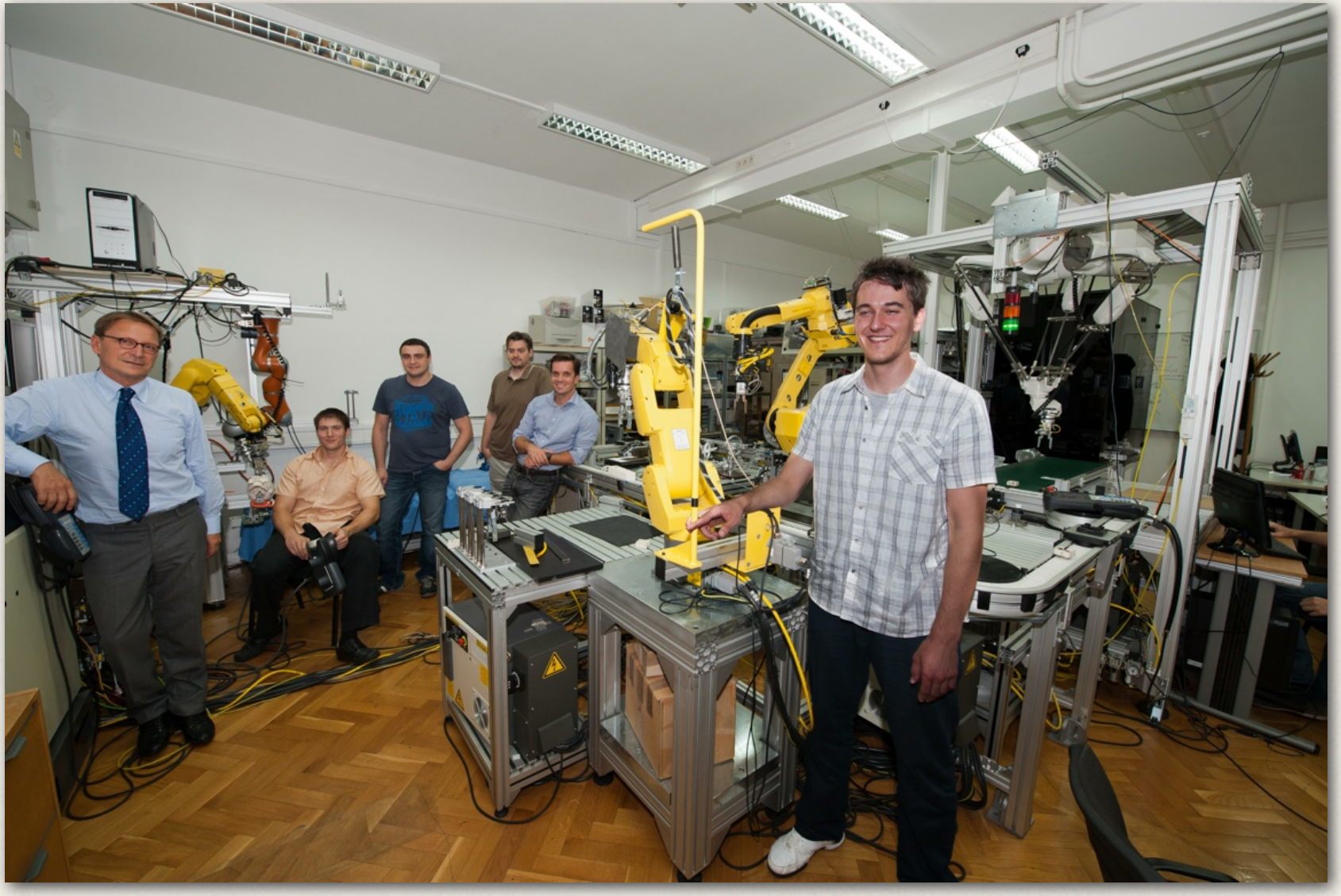
University of Zagreb

from 1669.

Faculty of Mechanical Engineering and Naval Architecture

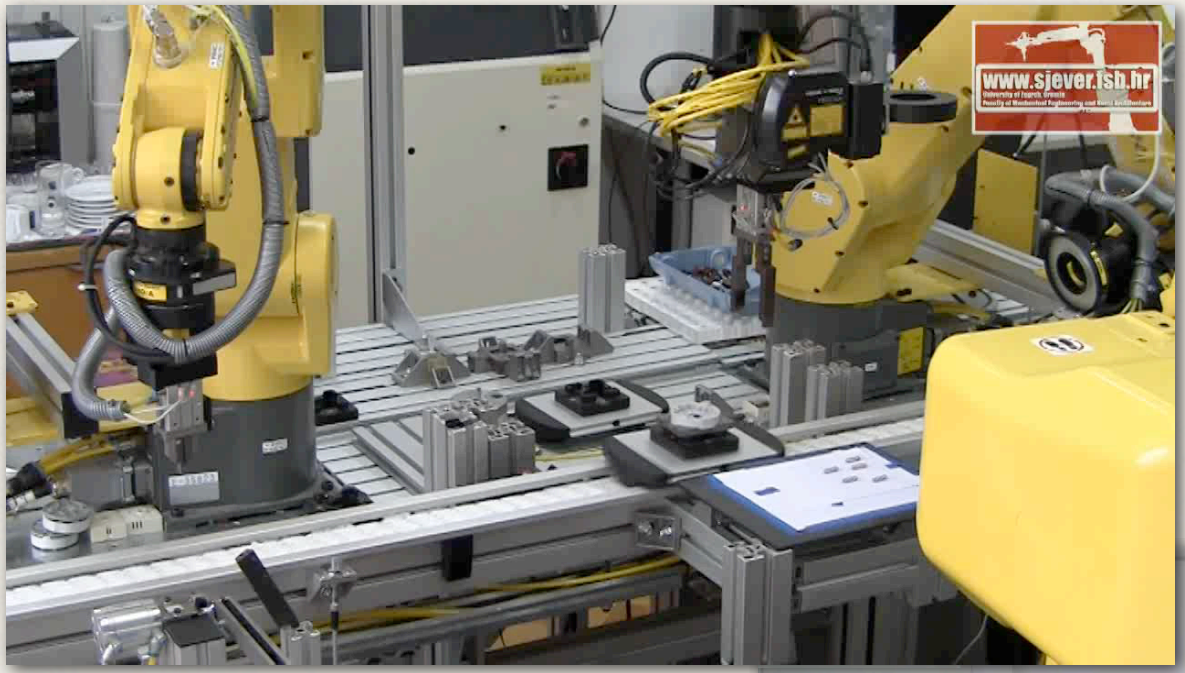
Department for Robotics and Automation

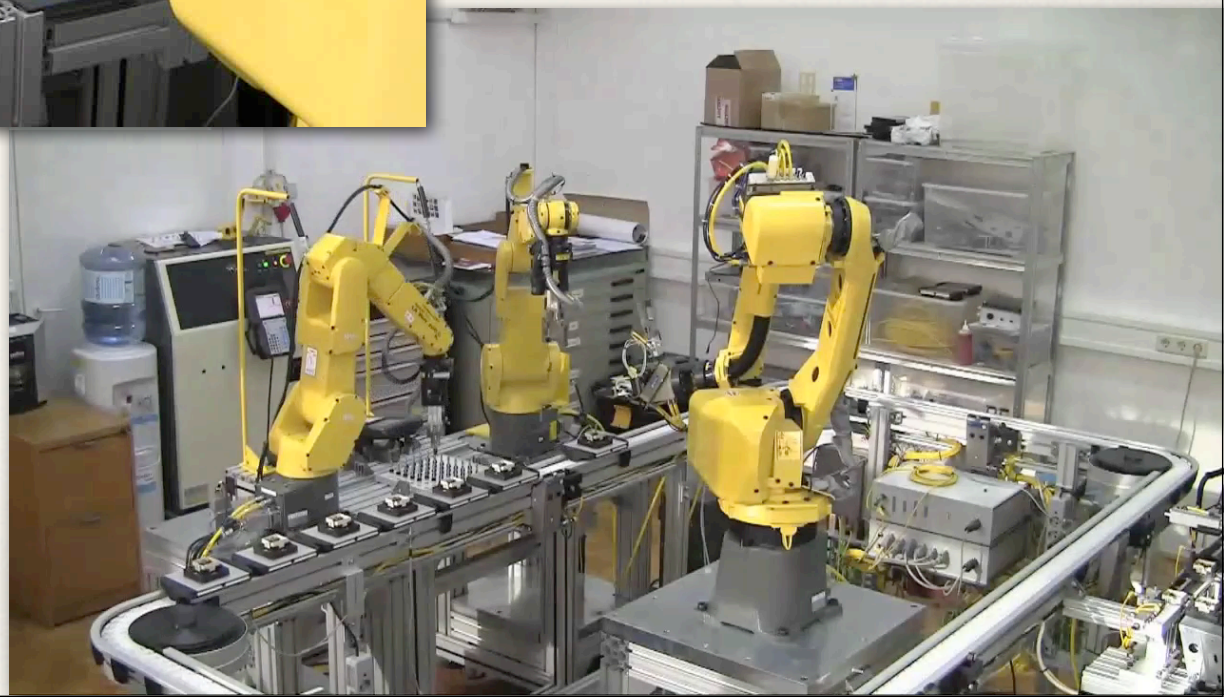
Autonomous Systems Lab (in the foundation)



Robotic vision is essential aspect of modern industrial adaptive systems

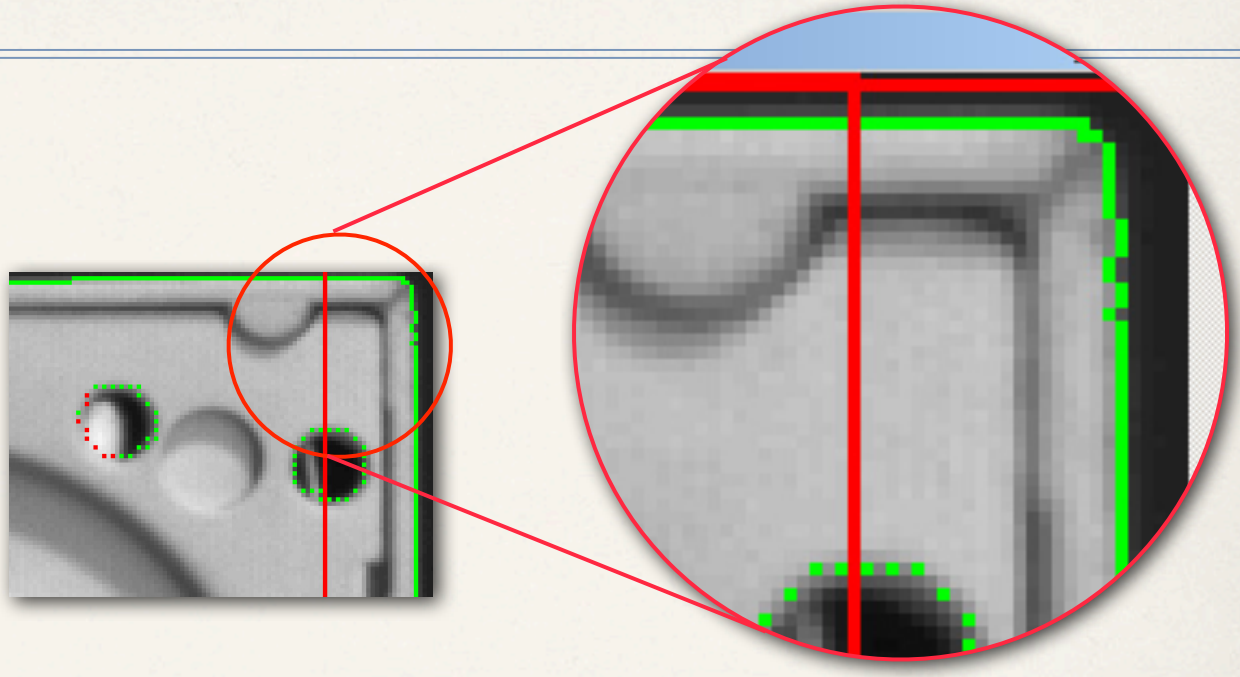
Vision systems in industrial robotics

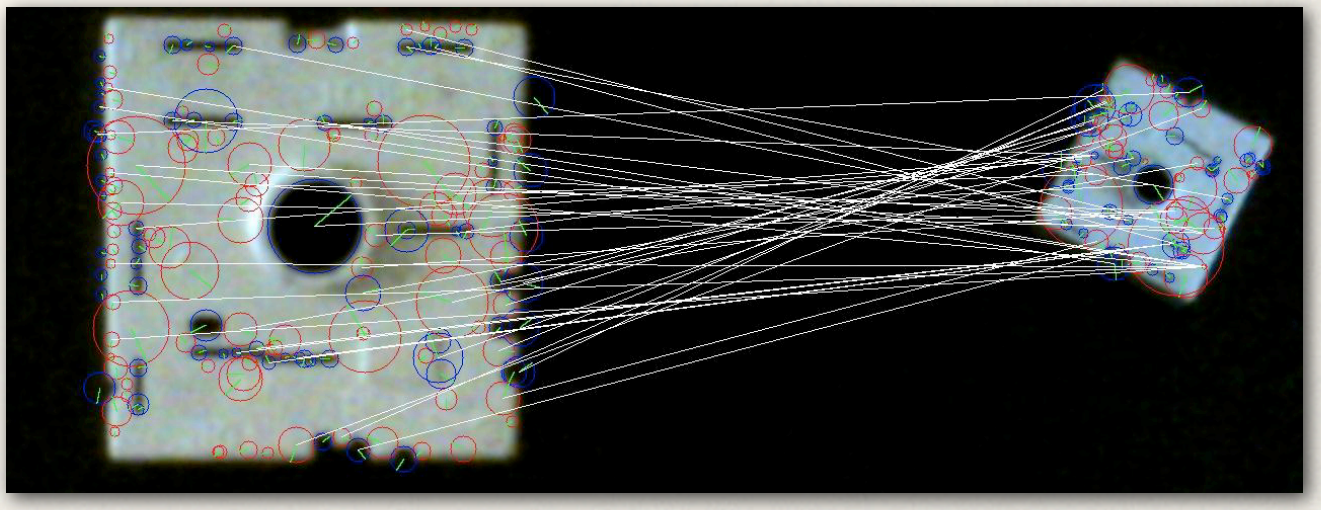




Problems ...

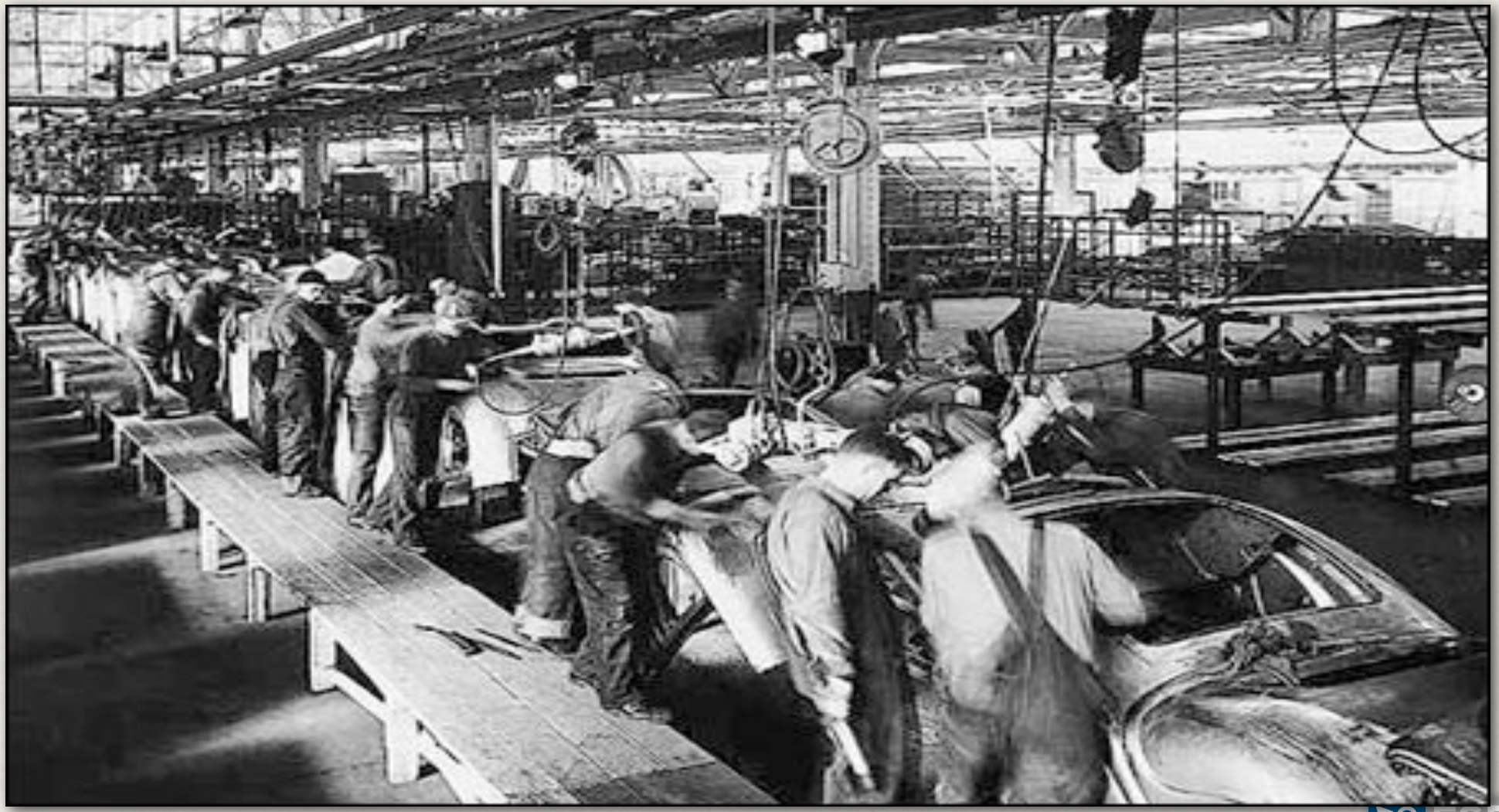
- Accuracy
- Complexity
- 3D estimation and recognition
- Contextual understanding
- Speed and dynamic recognition
- …





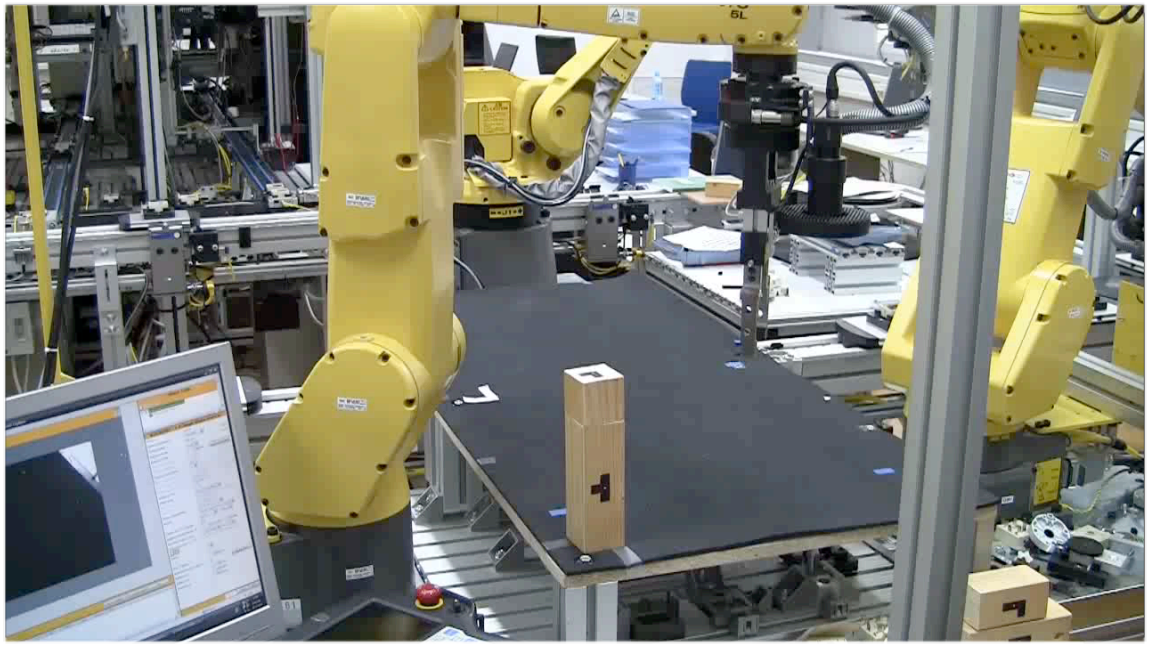
We want more ...

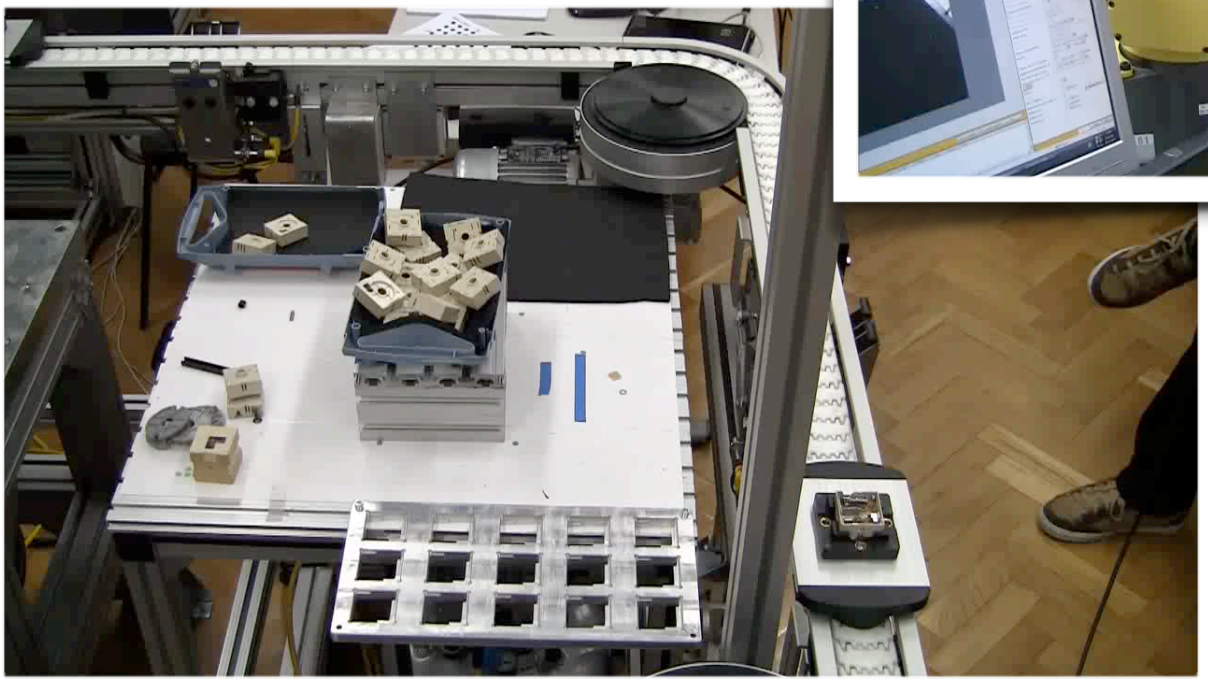
Manufacturing - yesterday



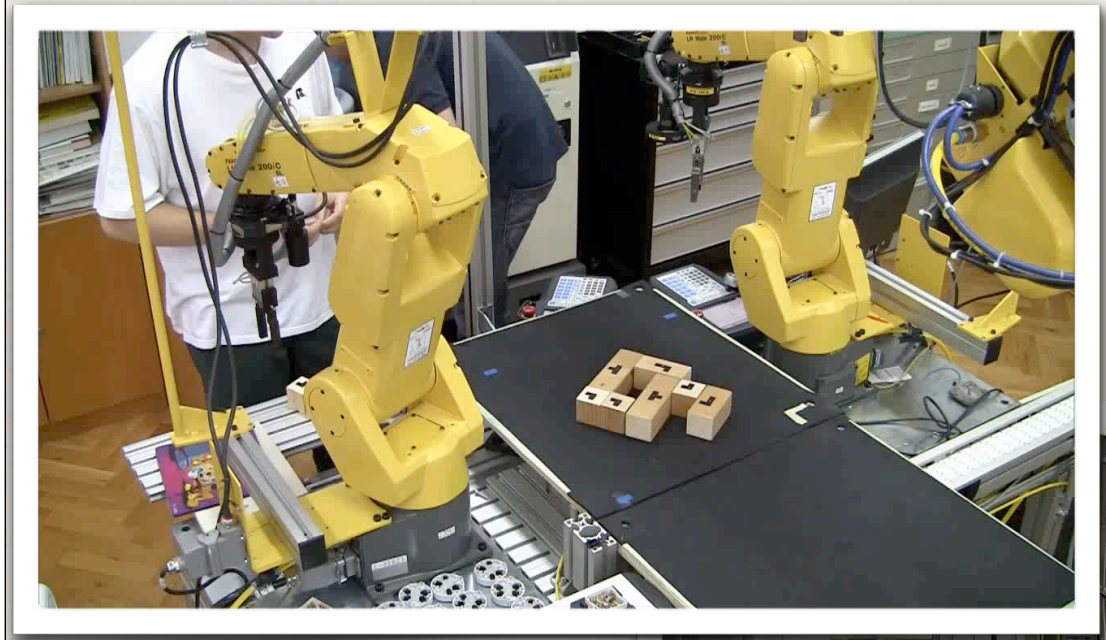
We want more ...

- Picking from box
- Interaction
- Emergent behavior

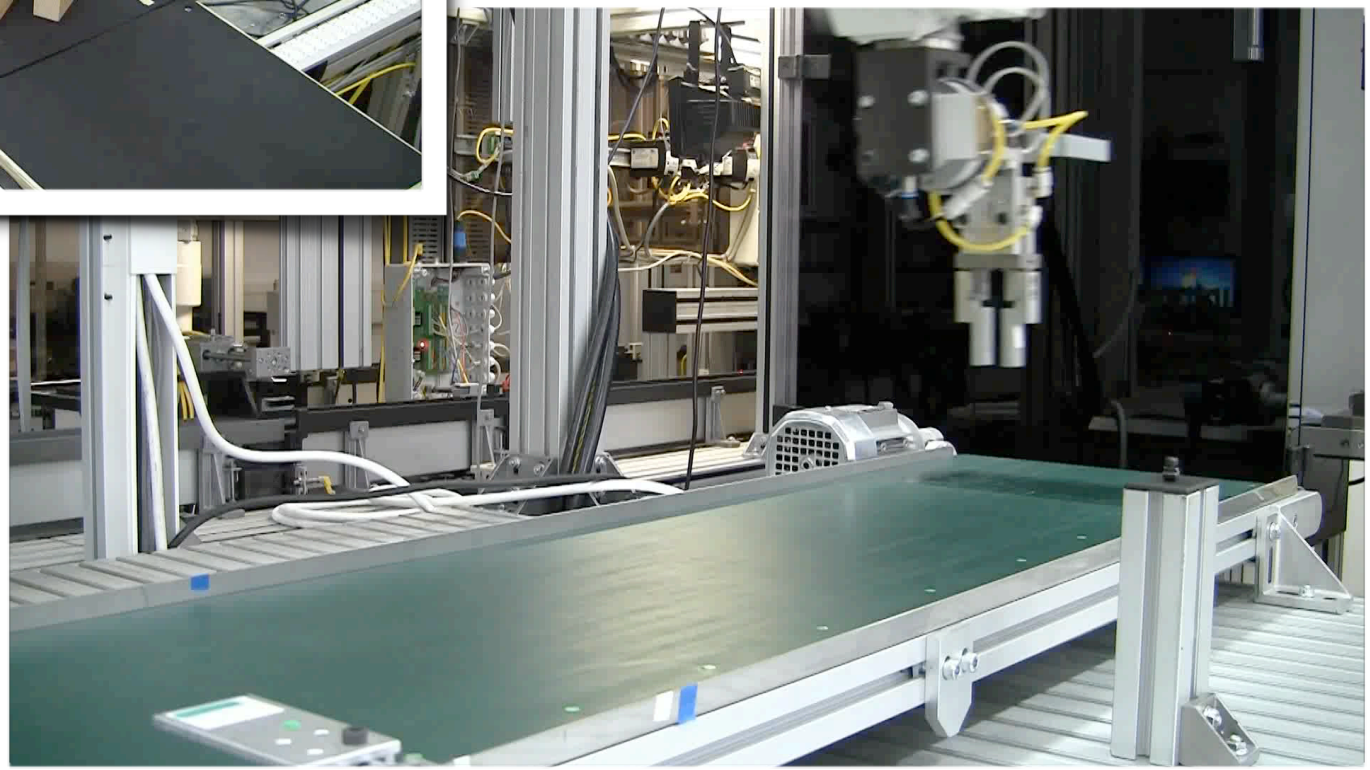




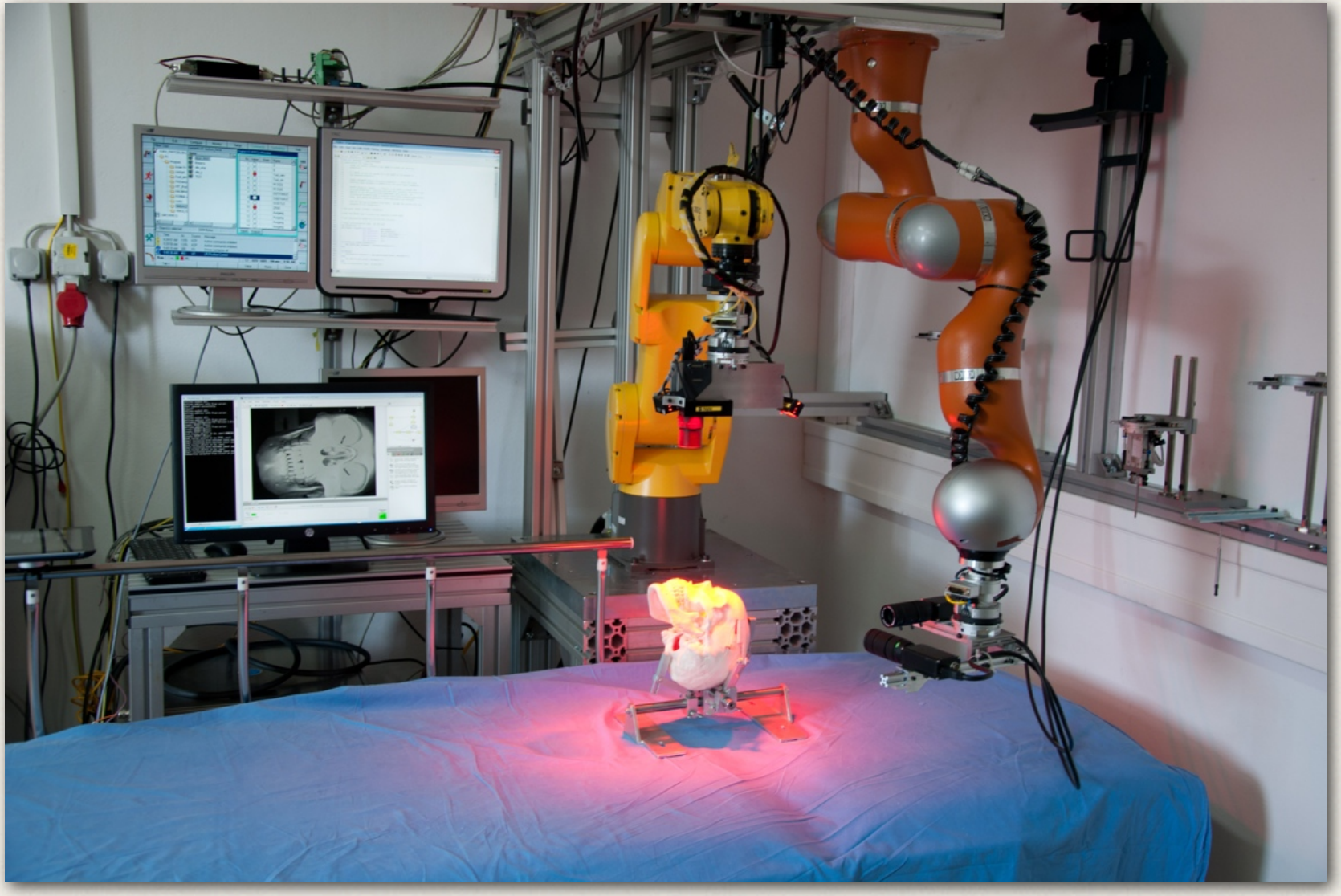
... work in dynamic conditions, dynamic assembly ...



- Understanding concepts
- Visual dynamic perception
- ...



... applied in new areas of human activity



Interaction, Understanding & Learning

Cognitive architecture: PROGRAMMING BY DEMONSTRATION

- Understand interaction with humans and objects
- Programming by demonstration using ***Microsoft Kinect***

FSB

Problems ...

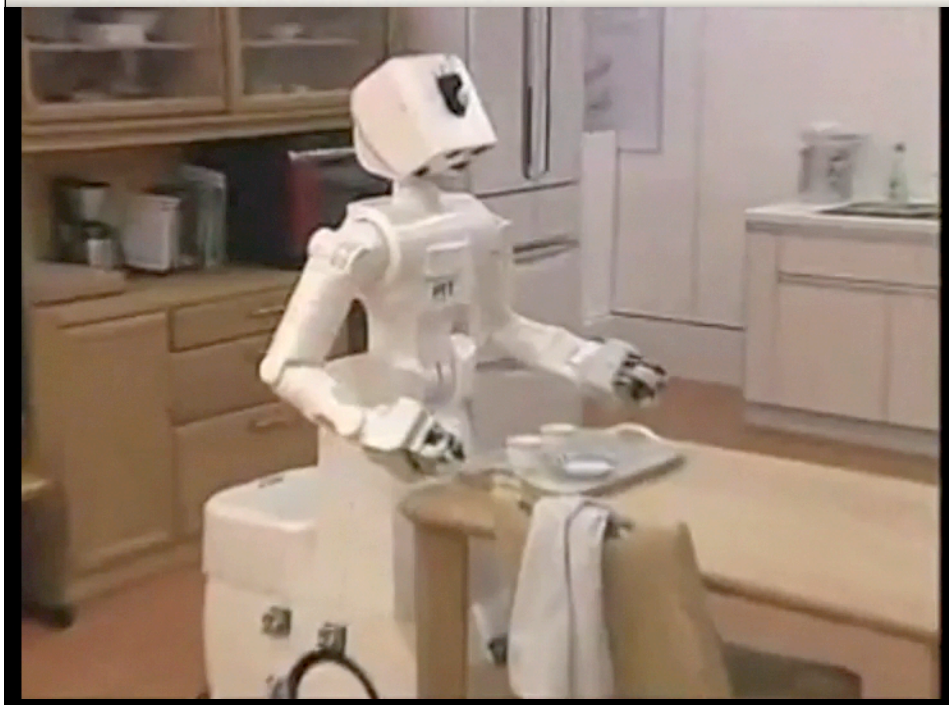
- Body language in human-robot interaction
- Intuitive gesture understanding
- Intelligent mapping of human body kinematic to the robot domain
- …

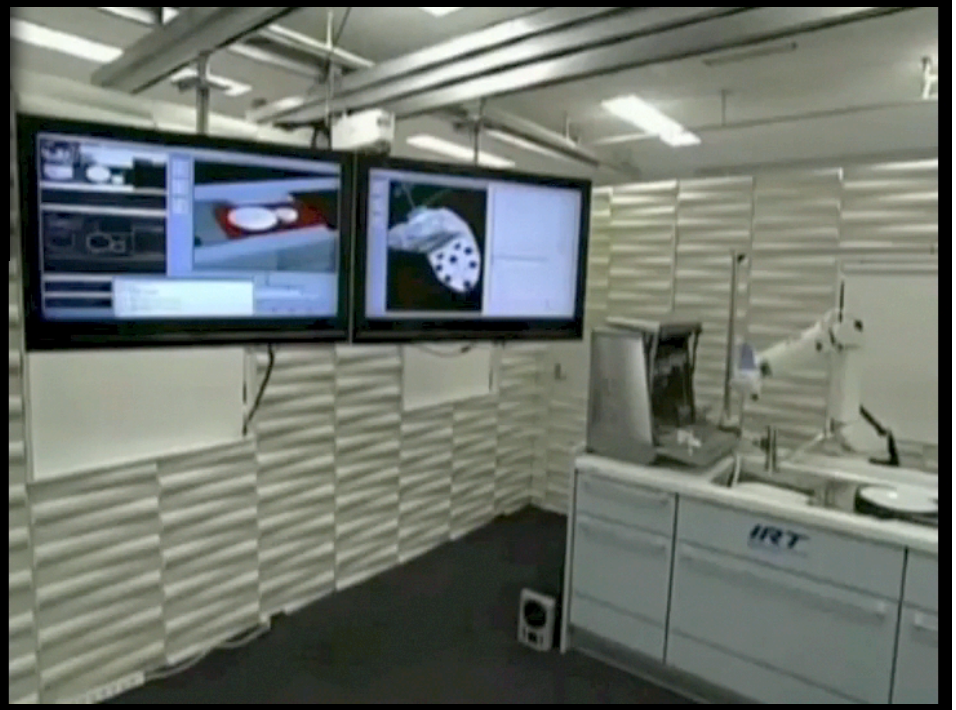
Tomorow ...

X-SERA 256
"ROBOT REVOLT"
Proof of Concept
small wonder studio
#254561
c 2011 sws

00:03:20;28
smallwonderstudio

... at home ...





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... at home ...