

# Základy analýzy obrazu (ZAO)



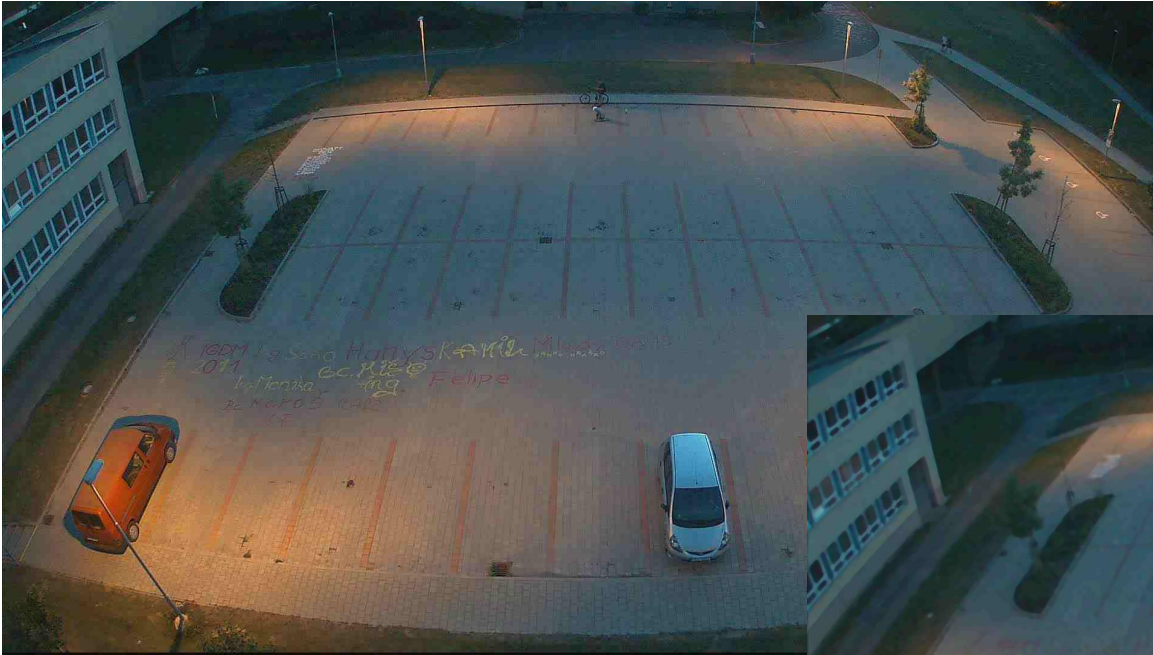
The most common tasks in image processing:

- Enhancement/Filtering

# Filtering



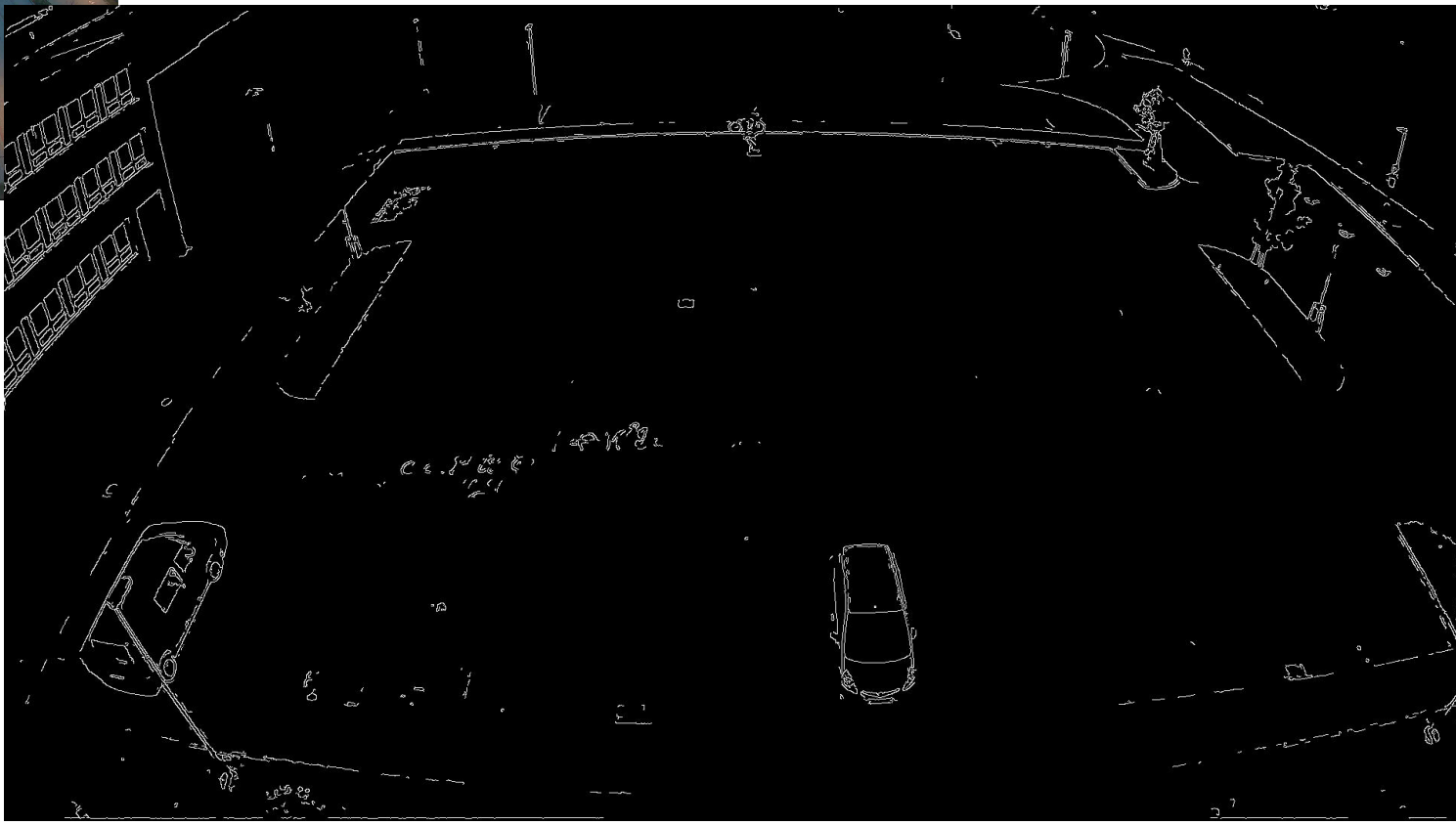
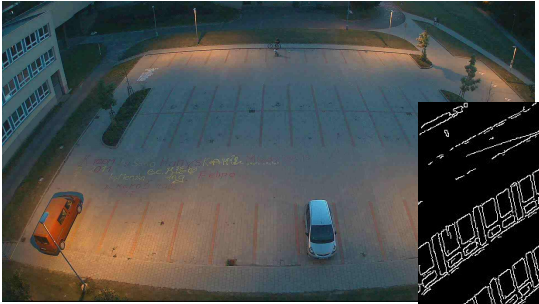
# Filtering



The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection

# Edge Detection



## Video Example

The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection
- Object Detection



What is goal of object detection methods?



# Object Detection

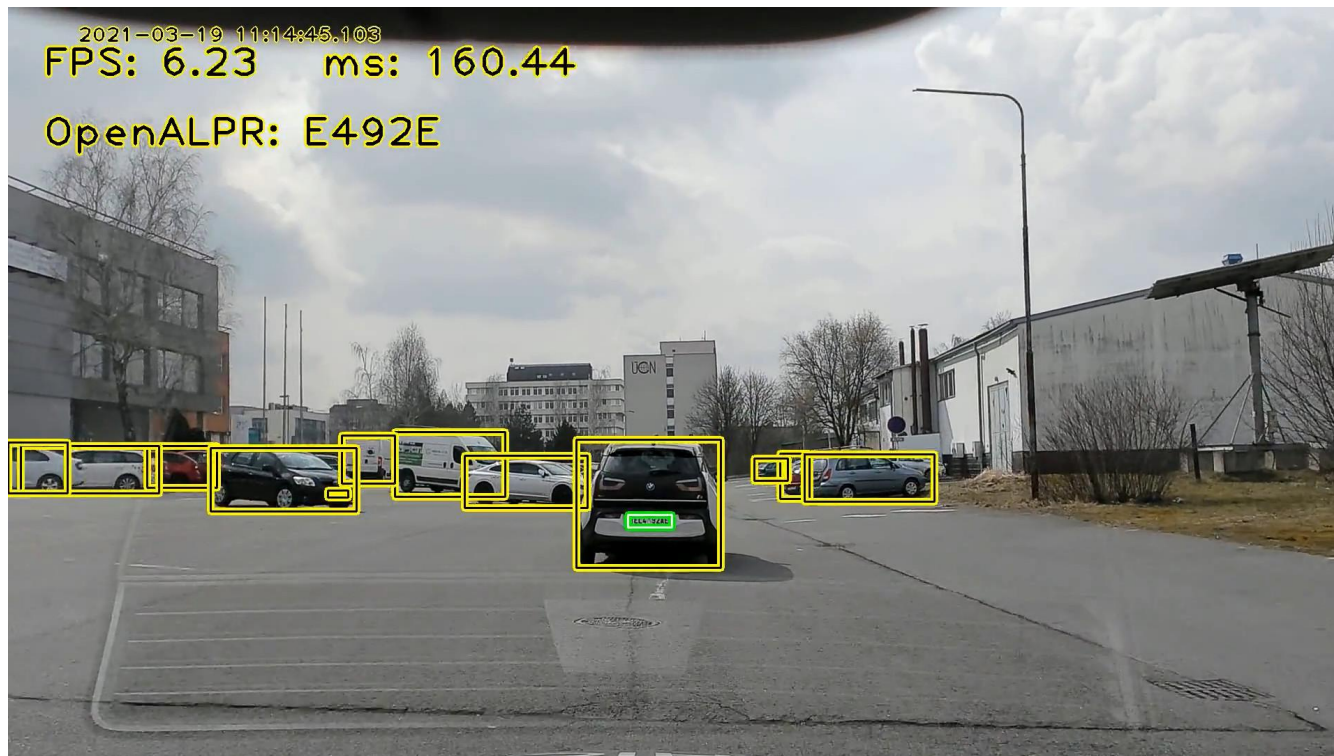
What is goal of object detection methods?

- It is clear that the images contain many objects of interest. The goal of the object detection systems is to find the location of these objects in the images (e.g. cars, faces, pedestrians).
- For example, the vehicle detection systems are crucial for traffic analysis or intelligent scheduling, the people detection systems can be useful for automotive safety, and the face detection systems are a key part of face recognition systems.

# Object Detection

What is goal of object detection methods?

- position of the objects (coordinates) + scale of the objects



## Video Example

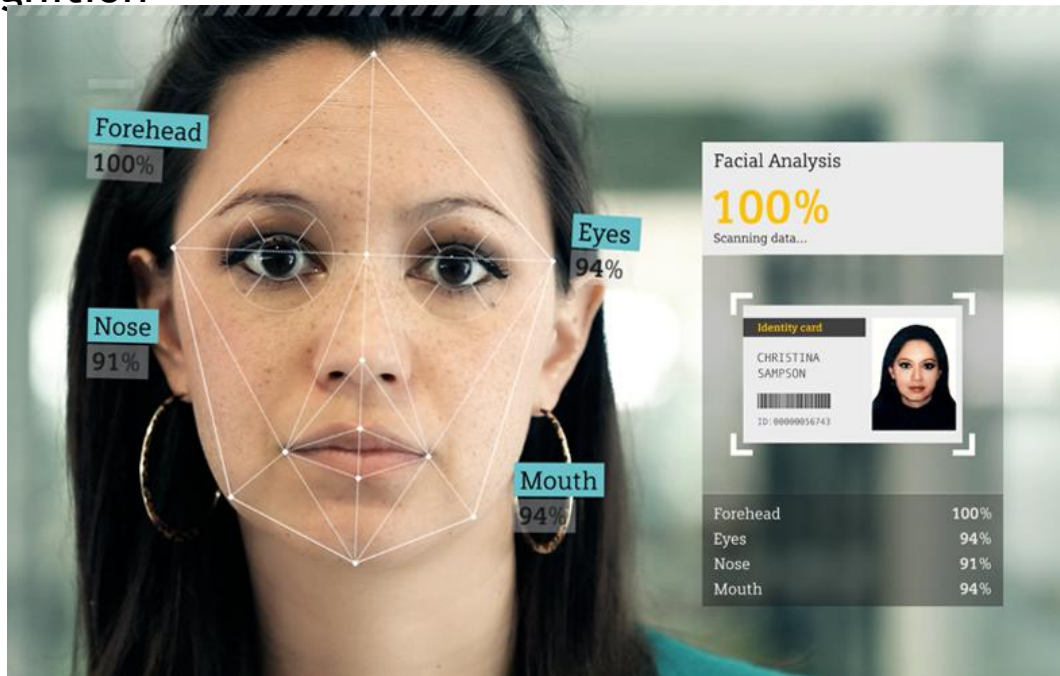
The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection
- Object Detection
- Object Recognition

# Object Recognition

What is goal of object recognition methods?

- identifying objects (categories)
- e.g. face recognition



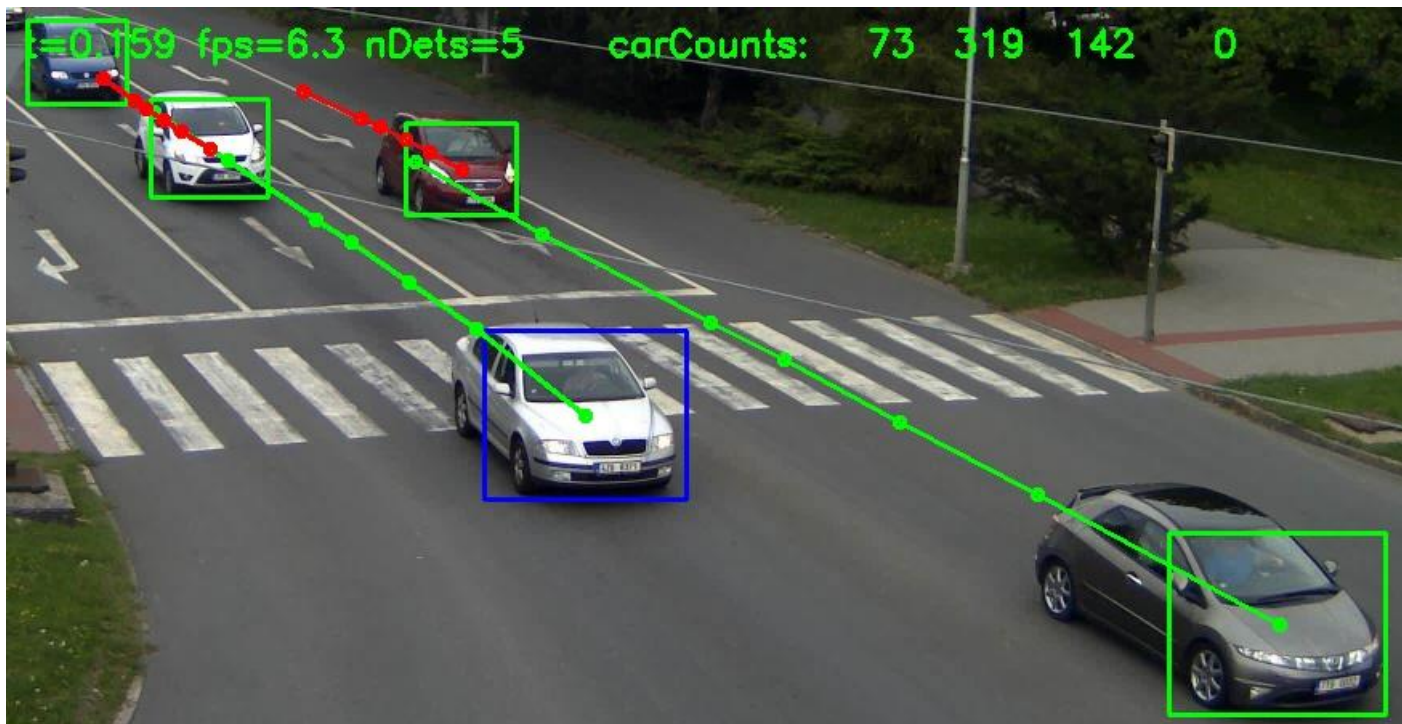
The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection
- Object Detection
- Object Recognition
- Object Tracking

# Object Tracking

## Object Tracking

- e.g. estimation of trajectory/unique ID to each tracked object



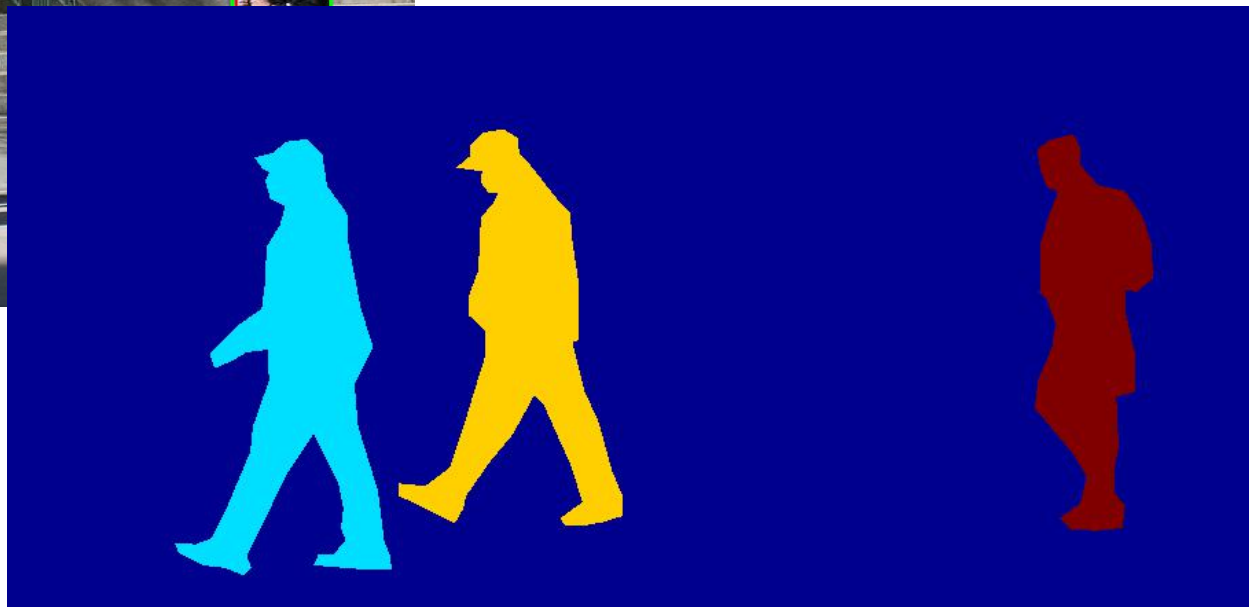
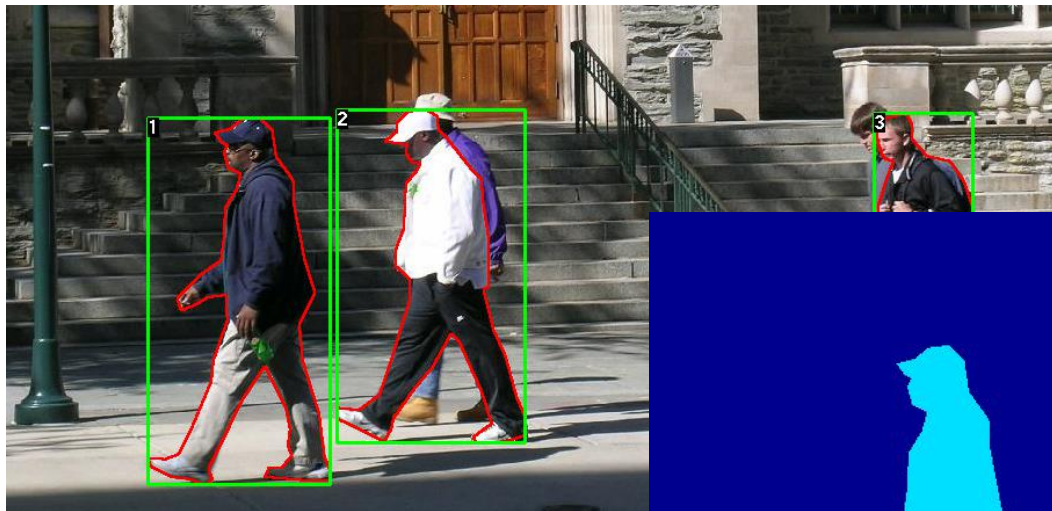


The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection
- Object Detection
- Object Recognition
- Object Tracking
- Segmentation

# Object Segmentation

Image is partitioned into multiple regions



# Object Segmentation

Image is partitioned into multiple regions

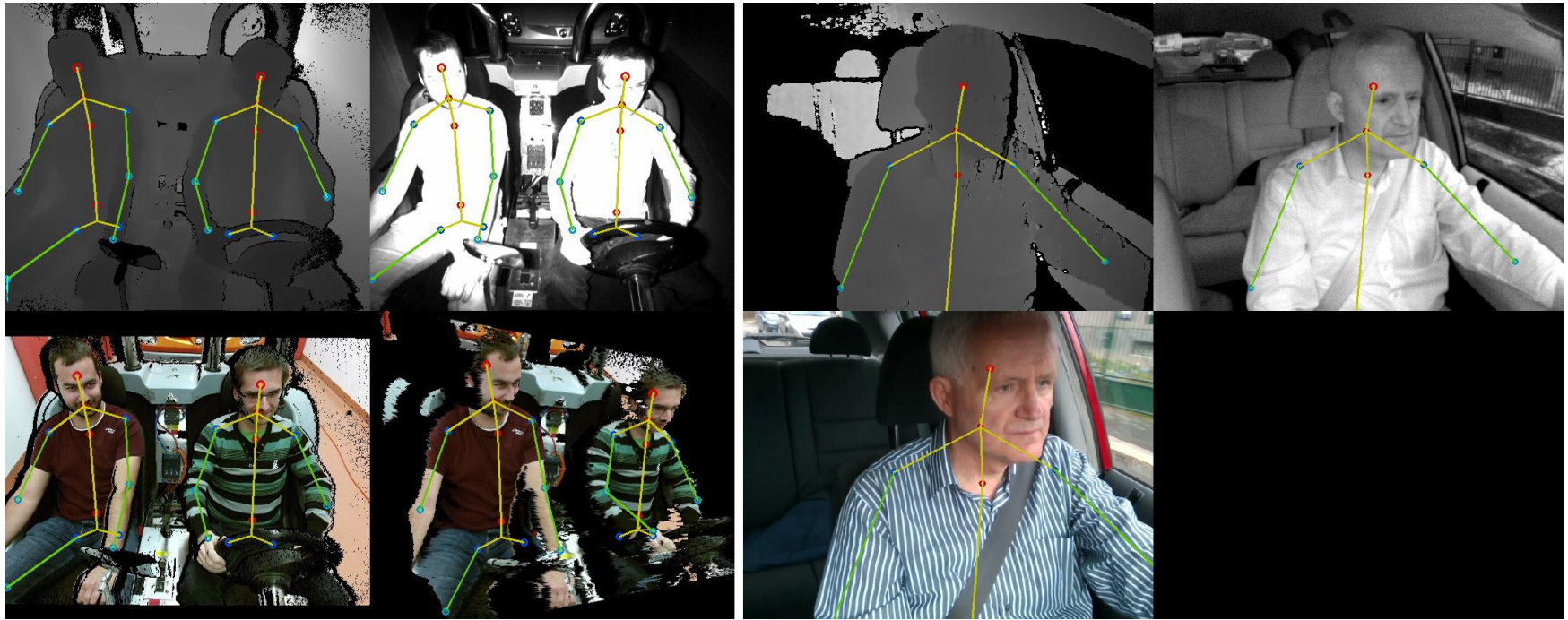


## Video Example

The most common tasks in image processing:

- Enhancement/Filtering
- Edge Detection
- Object Detection
- Object Recognition
- Object Tracking
- Segmentation
- Human Pose Detection
- ... many others

# Pose Detection



## Video Example