

# **Image Analysis systems**

## **Examples**

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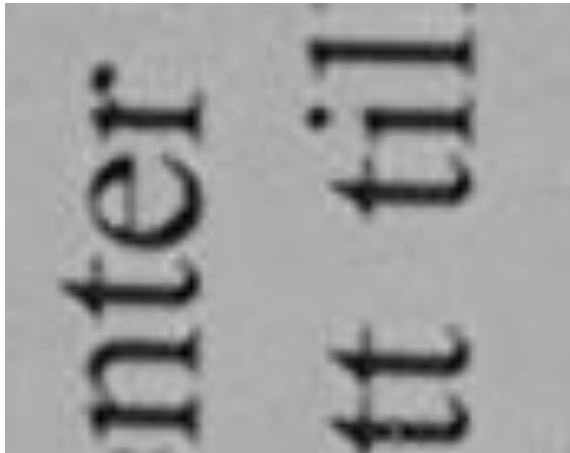
# Image Analysis

- **Each problem is usually unique**
- **Solution is often a combination of techniques**
  - **Filtering**
  - **Segmentation**
  - **Features**
  - **Machine learning**
  - **Testing**



# OCR example

- Image – segments – features - result

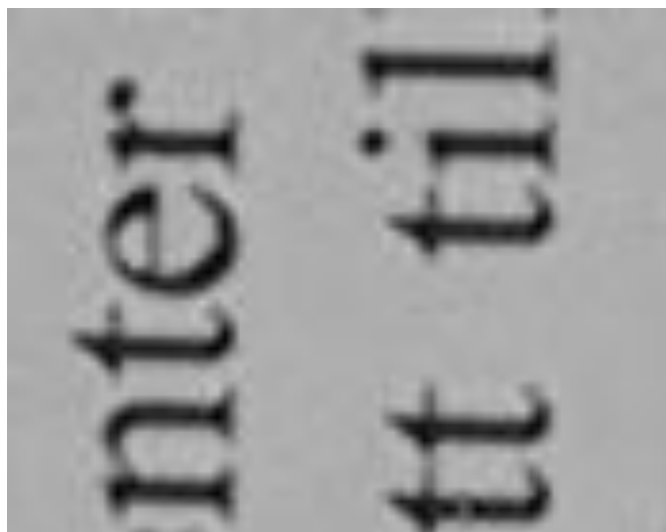


nter  
tt til



# OCR-system

- Vi segmenterar bilden i text/  
bakgrund med tröskling



**nter**

**tt til**



# OCR system

- Segmentation

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# OCR system

- **Features**
- **Machine learning**

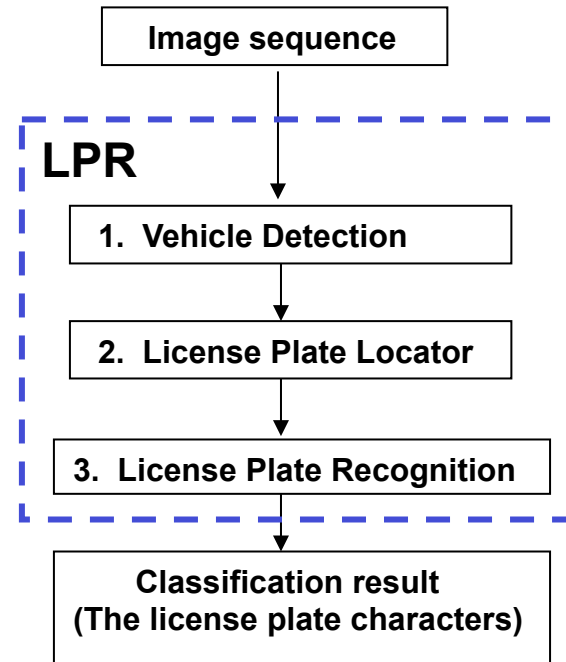


# More examples



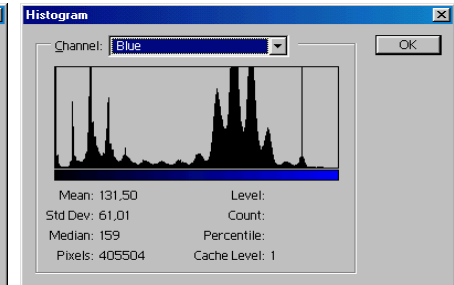
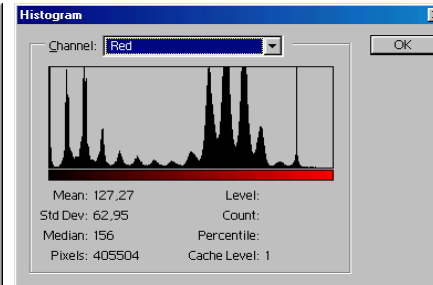
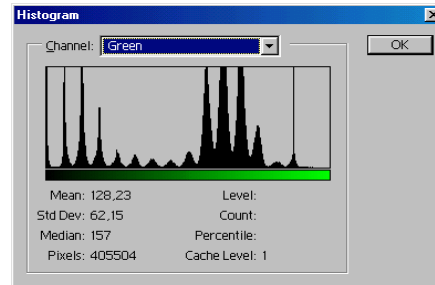
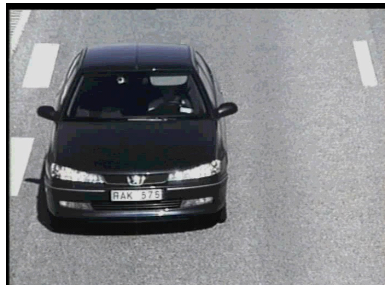
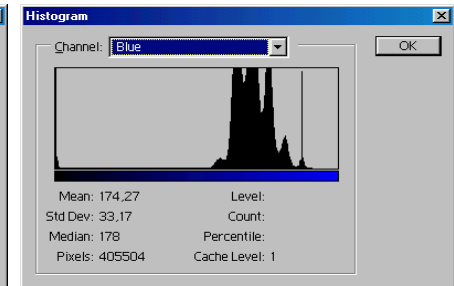
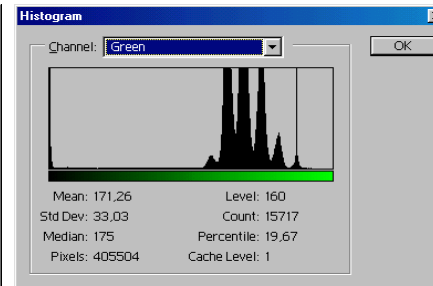
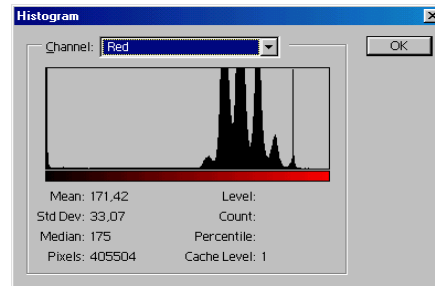
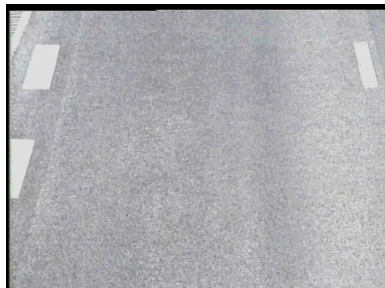
# Licence Plate Recognition

- ✓ Vehicle Detection
- ✓ License Plate Locator
- ✓ License Plate Recognition

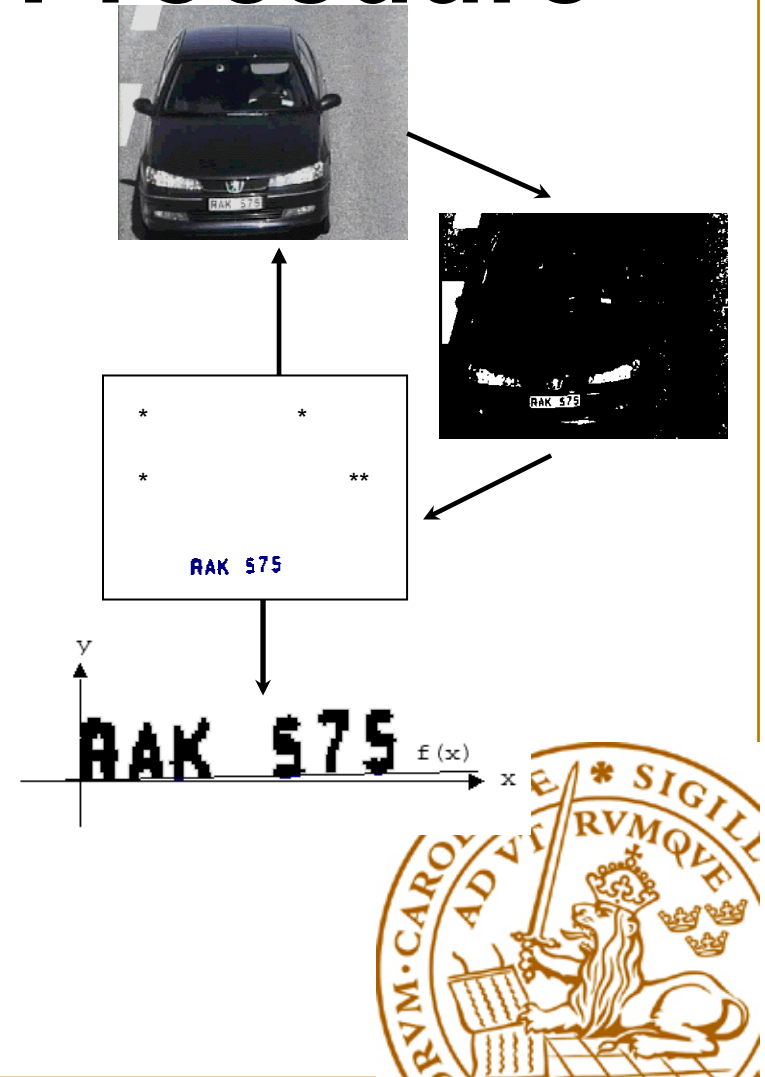
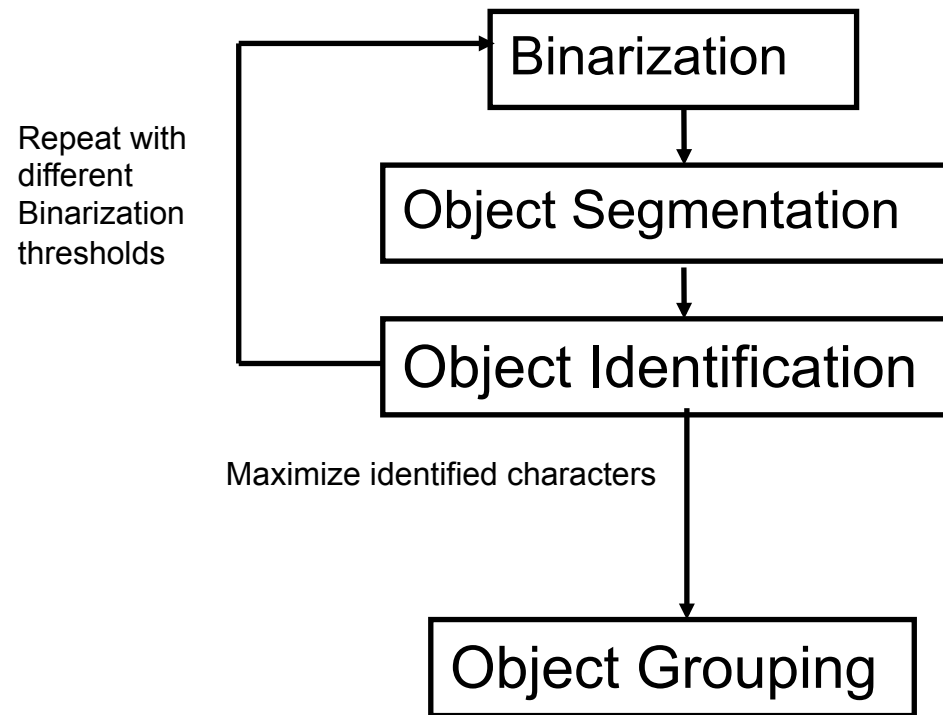




# Vehicle Detection - Color Histogram RGB



# License Plate Locator - Procedure

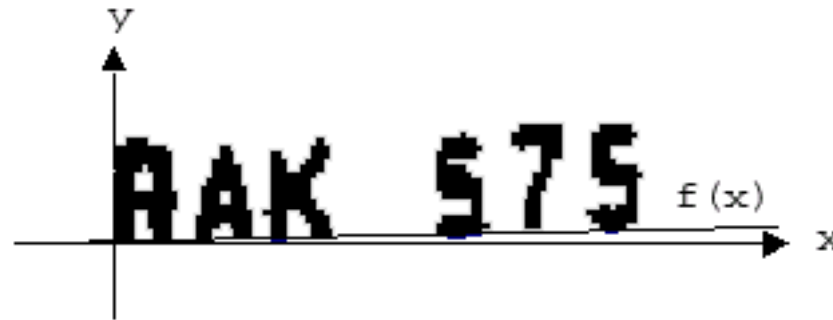


1. Vehicle Detection

2. License Plate Locator

3. License Plate Recognition

# License Plate Recognition



- Optical Character Recognition (OCR)
- Three separate correlations



# Another system – What's in my fridge

## – Fridge

- Event detection (put in, take out, reshuffle)
- Filtering
- Segmentation
- Features
- Machine learning



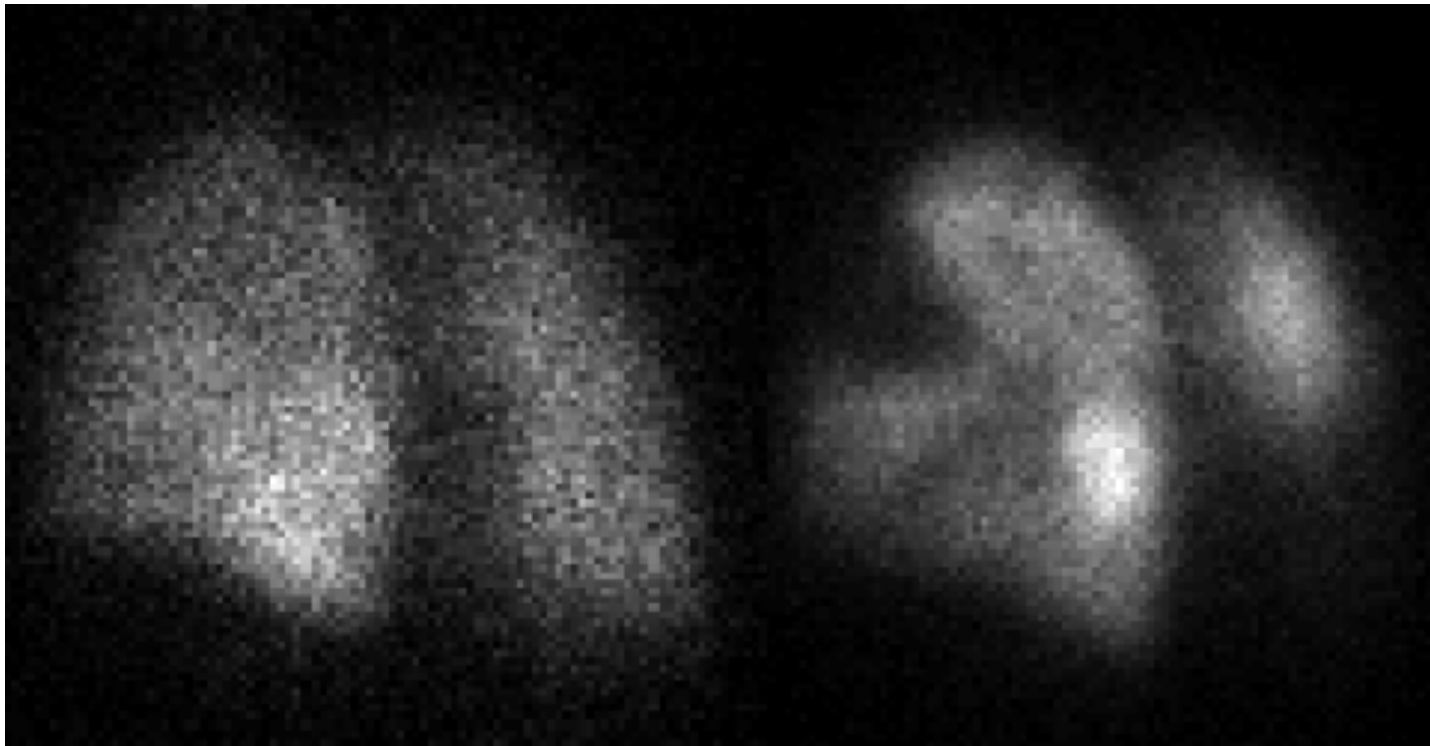
# Fridge Content Determination

- **Cameras in the fridge record action**
- **Detection and classification of actions**
- **3D modelling from images**
- **Classification of products**



# Detection of lung embolism

Image -> segmentation -> features -> healthy/sick



# Heart Images

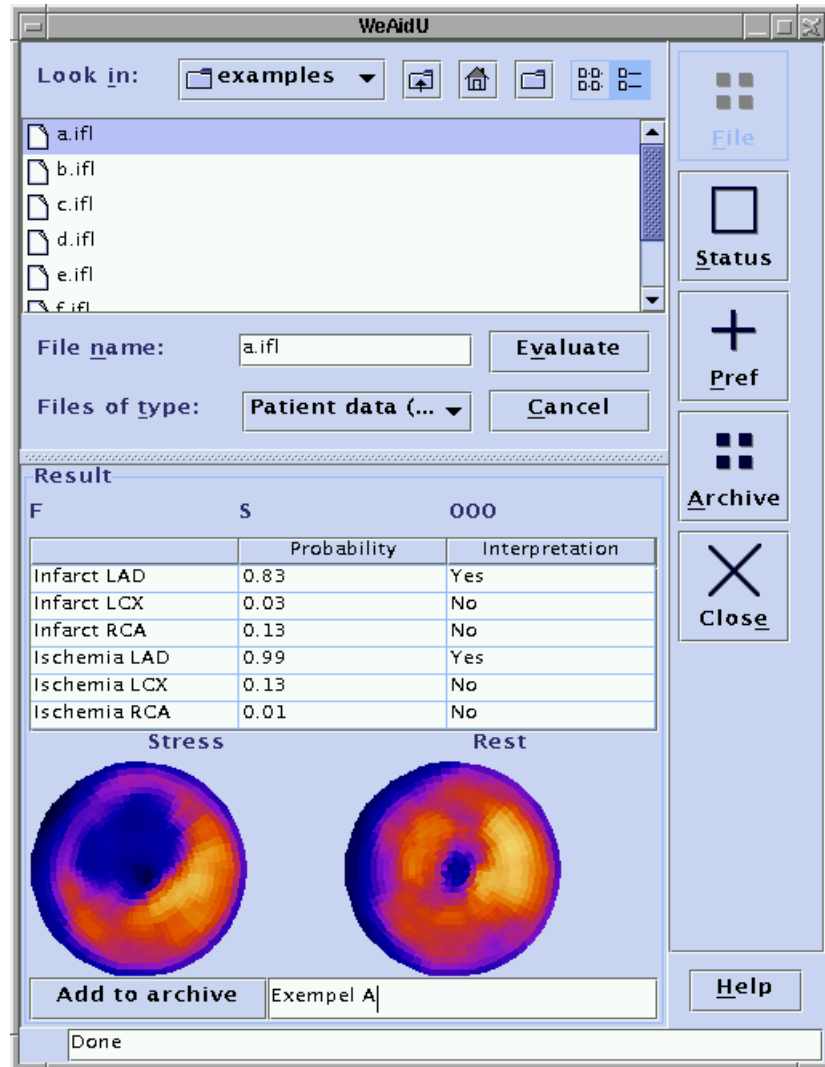


Image -> segmentation ->  
features -> healthy/sick

