Welcome!
Course overview

Computer Assisted Image Analysis II,
Spring 2016
Nataša Sladoje
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http://www.it.uu.se/edu/course/homepage/bild2/v16
Image Analysis II – Overview

- 15 + 1 lectures
  - in this room (2115) at CBA
  - see schedule on the course web page
  - It is good to read material before coming to class

- 3 x lab exercise
  - Location: ITC/2315D (see schedule)
  - if finished on time, each adds 1 point to the exam (out of 40)

- Project
  - Team work
  - Presented at the end of the course – we should set the date!

- Written exam
  - with cheat-sheet
Image Analysis II – Book

“Image Processing, Analysis, and Machine Vision”, by Sonka, Hlavac and Boyle

Additional material distributed in class, and put up for download from the course website.
Image Analysis II – Lecturers

Lecturers:
- Nataša Sladoje
- Anders Brun
- Maxime Bombrun
- Filip Malmberg
- Robin Strand
- Sajith Kecheril Sadanandan
- Carolina Wähly

Lab assistants:
- Kalyan Ram
- Damian Matuszewski
Image Analysis II – Labs

Schedule

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Place: ITC/2315D

- In groups of 2 students.
- Start preparing on time!
- Come prepared and use lab sessions to get help and hints.
- Report is required!
- Correct report handed in before the stated deadline adds 1 bonus point to the exam.
- Labs bring 40/100 credits!
In groups of 2 students. Every group works on a different project.

Project selection:
- Some suggestions on the course page (soon!).
- If you have a good idea for a project of your own, please talk to me first.

Project plan
- Should be ready by February 5 (email it to me before!).
- 1-2 pages of description what should be done and how.
- Each group will review another group’s plan.
Image Analysis II – Projects

Work on the project
- Do not hesitate to ask for help.
- Send an e-mail to schedule a meeting.
- Projects require time - Start working asap!

Presentation of projects
- Report handed in latest one day before the presentation.
- When: ?? To be agreed on!
- Room ?? (After we find a good day)
- 10 minutes each group.
- Project brings 20/100 credits to the overall score.
Friday, March 18
Time and location will be known later.

Some examples of the exam are on the course page – take a look!

You can bring one A4 sheet with hand-written notes
Making these notes is a good way to study.

Sign up for exam! This is now mandatory.
Registration is open  Feb 1, 2016 – March 6, 2016.

Exam brings 40/100 points to the overall score.
Image Analysis I

What you are expected to know already:

- Pointwise image operators
- Local image operators
- Fourier analysis of images
- Mathematical morphology and distance transforms
- Image segmentation
- Object description
- Classification
- Color images and image compression
Image Analysis II

What we will cover in this course:

- Convolution, Fourier transform, sampling, point operations, thresholding (Nataša)
- Filtering (2 lectures) (Nataša)
- Mathematical morphology (Maxime)
- Digital geometry (2 lectures) (Robin)
- Experimental design and image based screening (Carolina)
- Model-based and graph-based segmentation (2 lectures) (Filip)
What we will cover in this course (cont.):

- Image registration, geometric transformations (Nataša)
- Motion (Anders)
- Fuzzy set theory in image analysis (Nataša)
- Computer vision (Anders)
- Deep learning (Sajith)
- Classification (Anders)

- Repetition (Nataša)