EQ2330 Image and Video Processing 7.5 credits

Bild- och videobehandling

Course syllabus for EQ2330 valid from Spring 19

This is a translation of the Swedish, legally binding, course syllabus.

Grading scale: A, B, C, D, E, FX, F
Education cycle: Second cycle
Main field of study: Electrical Engineering

Intended learning outcomes

After passing this course, participants should be able to

- describe and use the principles of digital image and video processing to develop image processing algorithms,

- develop image processing algorithms for image filtering and restoration, image transformation and multiresolution processing, image and video compression, as well as image matching and segmentation,

- implement (for example with MatLab) and assess the developed image processing algorithms,

- explain algorithm design choices using the principles of digital image/video processing,

- develop image processing algorithms for a given practical image/video processing problem

- analyze given image/video processing problems, identify and explain the challenges, propose possible solutions, and explain the chosen algorithm design.

To achive higher grades, participants should also be able to

- solve more advanced problems in all areas mentioned above.

Course main content

This course introduces the principles of digital image and video processing, discusses current image and video processing technology, and provides hands-on experience with image/video processing and communication methods. The course includes topics on image filtering and restoration, image transform algorithms, multiresolution image processing, image matching and segmentation techniques, as well as image and video compression.

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

For single course students: 120 credits and documented proficiency in English B or equivalent.

Literature

See course homepage. Preliminary

R.C. Gonzalez and R.E. Woods: Digital Image Processing, Prentice-Hall

Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- TEN1 - Exam, 6.0 credits, grading scale: A, B, C, D, E, FX, F

Requirements for final grade

Preparation assignments, course projects, written examination.

Preparation assignments 1.5 ECTS (P/F). Course Projects 3 ECTS (A-F), Exam 3 ECTS (A-F). The final grade is the average of course projects and exam.