Two-dimensional computer vision

Number of ECTS credits: 3
Coefficient: 3

Description:

The course Vision 2D aims to introduce students to computer vision in two dimensions. It deals with the formation of digital images with optical and electronic imagery (conventional monochrome and color imaging, optical microscopy, scanning electron microscopy), their descriptions, their treatments (morphology, enhancement, filtering, ...), their segmentation and their analyzes. It illustrates these concepts with the free OpenCV solution in C ++ on quality control and autofocus applications.

Pedagogical objectives:
Analysis of computer vision problems to determine appropriate imaging and associated treatments; Analysis of computer vision solutions to determine performance; Development of computer vision applications using the OpenCV library with C++

Bibliography:
R. C. Gonzalez, R. E. Woods (2008) Digital image processing, Pearson Education
J.P. Coquerez, S. Philipp (1995) Analyse d'images : filtrage et segmentations

Prerequisite:
Geometric and Physical Optics, C ++ Programming

Lectures Hours: 10.5
Tutorials Hours: 6
Labs Hours: 12

Knowledge monitoring modalities: 100% continous assessement
Assessement: Reports of labs, exam

Leader: Sounkalo DEMBELE

Participants: