CS-6384 Computer Vision, Spring 2020
Friday, Saturday Friday 4:00-6:45 PM sec.1, Saturday 2:00-4:45 PM sec.2, Room Online

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Course Description

Texts

Required Text

Most of the material will be covered from class-notes with selected parts taken from sources available on the web.
There is no required text.

Other material

- Learning OpenCV by Kaehler and Bradsky. Available as "ebook" from UTD library.
- Computer Vision by Ballard and Brown. This book can be accessed online at: http://homepages.inf.ed.ac.uk/rbf/BOOKS/F
- Digital Picture Processing by Rosenfeld and Kak.
- Digital Image Processing by Gonzalez and Woods.
- Computer Vision by Shapiro and Stockman
  It is not necessary to buy any of these books.

Important Dates

- First Friday class after COVID break: April 3, 2020
- First Saturday class after COVID break: April 4, 2020
- Course Grades Available : May 14, 2020.

Grading Policy

- Homework 10%. (Assignments will not be graded.)
- Projects 45%.
- Test 1 45%. (Open books.)

Topics

- Pixel Techniques: Quantization, Color, Segmentation, Rescaling, Geometric-transformations.
- Neighborhood Techniques: Cross-correlation, Convolution, Edge Detection, Smoothing, Image transforms.
- Perspective Geometry.
- Deep Learning, convolutional neural nets.
- If time permits: Video Related Topics. Motion, Optical Flow.

Pre-requisites

- Pre-requisite: CS-5343
- Projects and some homework assignments require programming. We will use Python, OpenCV, and the TensorFlow software packages.

Attendance

1. Absence in three consecutive lectures will result in the course grade being lowered by one letter.

2. Absence in four consecutive lectures will automatically result in a failing grade (F) in the course.

Software

Additional Policies

- All exams are open books and notebooks.
- Computers are not allowed in exams, but pocket calculators may be needed.
- You cannot be present during the evaluation of your project.