

EE6051

Image Analysis

Instructors:

Profs. [Hsuan-Ting Chang](#) & [Chien-Chen Ho](#)

Outline (Topics included)

Prof. Chang

1. Image types and formats, basic image processing techniques
2. Image compression standards and algorithms
3. Deep learning techniques for image processing
4. Special topics on medical image processing

Outline (Topics included)

Prof. Ho

5. Computer Vision and Its Applications

6. Image and Video I/O with OpenCV

7. Image Processing with OpenCV

8. Detection and Recognition with OpenCV

Grading

Prof. Chang (50%)

- Homework & presence: 20%
- Paper reading & presentation: 30%

Prof. Ho (50%)

- Lab reports & presence: 35%
- Final exam: 15%

Journal article recommendation

- Journals: [IEEE](#), [SPIE](#), [Papers with code](#), [arXiv](#), [Elsevier](#)
- Years: since 2018
- Suggested keywords: medical image segmentation, lesion segmentation, semantic segmentation, image classification, image generation, pose estimation, object detection...
- Please email me the pdf file of the paper you found

References

- Prof. Chang
- Richard Szeliski, *Computer Vision: Algorithms and Applications*, © 2010 Richard Szeliski, Microsoft Research.
- Electronic draft and slide sources can be found at Website:
<http://szeliski.org/Book/>
- Prof. Ho
- Joe Minichino and Joseph Howse, *Learning OpenCV 3 Computer Vision with Python* (2nd edition), Packt Publishing Ltd., 2015