Medical Image Analysis

Teacher: Kuo-Sheng Cheng, Ph.D.
Professor, Department of Biomedical Engineering, NCKU
Time: Friday, 2-4
Place: 5730

This course provides the advanced applications of basic image processing in biological and medical areas. Topics include review of medical imaging, biomedical applications of image enhancement, image segmentation, image representation and analysis, image registration, and image visualization, and finally current and future trends in medical imaging and image analysis. The course will incorporate the experimental projects for biomedical image analysis and 3 homeworks. Possibly, it may include the journal club, if the time is enough.

In the project, some medical images will be provided for analysis. Firstly, every student needs to design and develop his own user interface for managing and processing the image files. Then, he will work on the application of image processing techniques to extract the quantitative information about the interested objects. The results of the project will be written up in formal written report attached with software files. Besides, a summary of the report will be presented and demonstrated in class. In the journal club, every student needs to review and present the literature related to the medical image analysis. However,

Overall Evaluation:
3 homeworks 30%
Project (including written report and presentation) 60%
Class attendance and interaction 10%

Course text: