Medical Imaging

Teacher: Kuo-Sheng Cheng, Ph.D.
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Time: Friday, 5-7
Classroom: 5730

This course provides a comprehensive introduction to all major aspects of standard medical imaging systems used today. Topics include basic signal and image processing, computed tomography, nuclear medicine, MRI, and possibly, other related imaging systems. The fundamental mathematics underlying each imaging modality is reviewed, and an engineering approach for system configuration will be discussed. The course will incorporate 3 homeworks, a midterm project, and a final project.

The final project is a chance for the students to get involved in and acquainted with computerized image reconstruction. The results of the project will be written up in formal written report. Besides, a summary of the report will be presented and demonstrated in class.

Overall Evaluation:
3 homeworks         30%
Midterm project     20%
Final project (including written report and presentation) 45%
Others (class attendance and interaction) 5%

Course Textbook: