Homework 4

(Assigned Tuesday 3/26/09, due Tuesday 4/2/09)

1. Write a short essay paper (2-3 pages) on the basic perimeters defining biomedical image quality.

2. Define and provide concrete examples for the following terms:
   a. Partial volume effect
   b. Bias field phenomena
   c. Image contrast
   d. Image resolution
   e. Algorithmic sensitivity
   f. Algorithmic specificity
   g. Motion artifacts

3. Extra Credit: Design an algorithm with GUI tools that will illustrate the concept of bias field and how it can be estimated and corrected in MRI scanning. This part will count for 20 points.