CSci 6967 and ECSE 6969
Image Registration
Spring 2004 Syllabus
Programming Project
Due: Tuesday, April 6, 2004

As stated in the syllabus this course has two significant projects. The first, described here, focuses on programming. The second, to be distributed in early April, focuses more on research.

In this project you are to solve a registration problem (or some important aspect of a registration problem) using either the ITK or VXL/RGRL registration toolkits (or both). This means you will study the problem, determine what components of the toolkit are necessary to solve the problem, **and** write a significant amount of your own software. Project completion will require that you turn in

- a write-up giving (a) an overview of the problem you are solving, (b) how you are solving it, and (c) documentation of your experimental results,

- well-documented source code implementing your solution, and

- a brief demonstration of your results.

The choice of project is of your own. I have already suggested projects to several individuals and will suggest a few more. Please ask me for suggestions if you don't have a problem idea or if you'd like feedback your own idea. Some of the write-ups on registration problems at the beginning of the semester could be turned into projects.

The emphasis of the programming will be different for each project. For example, if you are applying VXL/RGRL to a new problem, the focus of your efforts might be on the feature extraction prior to registration. Similarly, you might implement a new similarity measure for intensity-based registration in ITK.

Class time on Friday, March 19 will be reserved for discussion of the software toolkits and the projects. Come prepared to work on your project and discuss it individually with the instructors. You must make preliminary progress on the project by that time, including, at a minimum, the problem definition and an outline of what software you need to write.