

Final Project Details

Methods in Medical Image Analysis - Spring 2012

BioE 2630 (Pitt) : 16-725 (CMU RI)

18-791 (CMU ECE) : 42-735 (CMU BME)

By Dr. John Galeotti



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Code Expectations

- Use ITKv4 or SimpleITK
- Show creativity and/or experimentation, such as:
 - Carefully adjust several parameters
 - Validation, etc.
 - Combine filters in a novel way
 - Write you own filter or other large piece of unique code
 - Conceive and implement a new idea for image analysis
- Insufficient:
 - Just connect several filters together & wrap in a GUI
 - Copy directly from software guide with little original work
- Emailed project proposals due by March 14th.

Code Grading Criteria

- 11 points: Originality/experimentation
- 7 points: Code works
- 4 points: Submission details (e.g., ReadMe.txt file)
- 3 points: Code comments & other documentation
- “0” points: Must use (Simple)ITK—FAIL without this!

Total: 25 points

Final grade based on how your code works on your data when the TA compiles and runs your code, unless you make previous arrangements with the TA and myself ahead of time.

Code Submission Details

- Include a README.txt file that lists:
 - All necessary instructions for the TA to compile (if necessary) and run your code.
 - Your desired parameters for any (command line) arguments to your program.
- Submit any data needed to run your code.
 - Unless other arrangements have been made with your TA, such as if your input images are very large.
- It is your responsibility to make it very easy for your TA run, test, and understand your code.
- Due date: Final project code committed to svn by 11:59 PM Thursday May 3rd

Presentations

- Due date for presentation slides
 - Everyone's slides due at the same time
 - 10 AM on the first day of presentations
 - This is *before* your code is due
 - Order of actual presentations TBD
- Slides must contain partial/preliminary results
 - Results with unoptimized parameters
—and/or—
 - Intermediate output generated part-way through your algorithm

Presentation Grading Criteria

- Background (4 points, ≥ 1 minutes):
 - What is the general problem you are trying to solve?
 - Why is it interesting or important?
 - Why is it difficult? (Why is it not already solved.)
- Method (5 points for *presentation* of methods, ≥ 2 minutes)
 - What is your approach (big picture)?
 - How did you implement it in ITK?
 - What were the main implementation challenges you faced?
 - E.g. finding parameters that worked
 - E.g. coding new functionality
 - Feel free to go over coding details as useful for the audience...
 - Don't spend much time repeating stuff we've already covered in class.

Presentation Grading Criteria, contd.

- Results (3 points for presentation of results, ≥ 1 minutes):
 - Pretty pictures, numerical results, graphs and charts, etc.
 - Is it easy to understand how you did (or will most likely do)?
 - Did you accomplish your goal for your project?
 - How has this helped your research?
- Non-technical stuff (3):
 - Time length: **4.5-5.5 minutes** (loose points if outside this range)
 - Public speaking stuff
 - Etc.
- General guideline: your presentation should be appropriate for *short* talk at a conference workshop.
- 12 presentations per class allows 4.5-5.5 minutes per presentation plus ~ 1 minute for questions and changing of speakers.

Presentation: Other Details

- Your presentations will probably be posted to the password-protected part of the website
 - Unless you explicitly tell me that you either don't want it posted at all, or (contrarily) that you want it posted publicly.
- Please bring your own laptop, if possible.
 - If your laptop needs a VGA adapter, bring it too.
 - If you need to use my laptop instead, then please let me know now and please be aware that it is a Mac.