CS453/553 Scientific Visualization Term Project Proposal

Due Nov. 21, 2020

For the term project, you will work on a team of two. There are two options.

The first option applies if you have access to a domain expert with a domain application that requires visualizing scalar, vector, tensor, or a combination of such datasets. In this case, you can apply known visualization techniques to your data set. However, you will need to use at least one of the visualization technique you have learned from this class. Also, you will need to include physical interpretation of applying these visualization techniques to your data.

The second option applies if you do not have access to the aforementioned domain expert. In this case, your team can select a published research paper on scientific visualization and implement the technique (or part of it) in the paper. You will also include physical interpretation of applying your implemented visualization technique to the datasets that are provided either by authors of that paper or found by you online. If no datasets can be found, we can provide data.

There are three parts to this assignment, with three submissions.

First, the proposal, which is due on Nov. 21, 2019, must include the following pieces of information:

- Who are part of the team? Note that only one member per team needs to submit to this assignment.
- Which option applies to your team?
- For option 1 (with domain expert),
    - who is the domain expert and what is the domain application? Please provide sufficient background information on the domain application with images and references. This part should take about one page.
    - what data sets will be visualized, and why?
    - for each data set, what visualization technique will be used?
    - which technique you learned from this class will be applied?
    - evaluation plan.
- For option 2 (implementing a published research paper)
    - which paper?
    - what data sets are you planning to apply your visualization techniques to? If you need us to help provide data, please let us immediately. In the proposal, you should have the data sets also known.
    - how do you plan to evaluate the correctness and effectiveness of your technique?
- Use the given paper template and Latex to write your proposal which can be converted to the PDF format.

Looking ahead, the second submission will be your class presentation slides, due on Nov. 30, 2019 before 8pm. The presentation will be on Dec. 1 and Dec. 3, during classes. It is required for everyone in the class, even when your team is not presenting on the day. Not being present during the presentations will lose 25% of your total term project grade.

Each team has ten minutes, including the time to present your project and Q&A. Please prepare about 7-10 slides. Also, be sure to practice your talk so that it is within the time frame.

The last submission will be the project itself, including a project write-up. It will be due on Dec. 10, 2019. More details will be provided later.