EE 267W Virtual Reality: WIM Assignment 1

Due: 04/18/2024, 11:59pm

Instructions

Before starting this assignment, please participate in the EE267 WIM Workshop on "How To Write An IEEE Paper" first. The instructors will go through the general structure of a technical paper or project report with you. Through writing and reading assignments as well as consistent feedback throughout this quarter, the sequence of WIM assignments will help you put together a well-structured and clearly written EE267 project report. In every WIM assignment we will either write or read a part of your project proposal or report and you will get feedback on that either from your peers or from the instructors before revising your writing.

In the first WIM assignment, you will write a project proposal for your EE267 project. So the first thing you want to do is think about a project[1]. Feel free to email the course staff if you need some feedback on your idea or if you have multiple ideas, but don't know which one to pick. The instructors will help you refine an idea or select one from your list of ideas, but they will not give you an idea.

Next, go ahead and download the Latex template for your project report from the course website. Go ahead and make a copy of the file *iccppaper_final.tex* and rename it to *proposal_yourlastname.tex*. Technical papers are usually written using Latex. If you have not worked with Latex before, please read the section below otherwise you can skip that part of the writeup.

Your task for this week is a writing assignment: you will write a first draft of your project proposal. For this purpose, you will write about 1 page of text. Start with a section called *Project Outline*. In this section, you will write a few paragraphs outlining your project idea. First describe the general context of your idea as well as the problem that you are trying to solve. Highlight why it is important to work on this problem. Then, write a paragraph that briefly discusses related work: what approaches have other people tried to address this problem? Cite relevant scientific papers, blog posts, or other sources. Briefly discuss the advantages and disadvantages of each approach. Include at least 5 references and add these to your bibtex file (they should appear in the *References* section on the bottom of your pdf). Next, describe how your idea will be different from or similar to these other approaches.

Finally, include milestones of your project with a specific time line. You should plan on working on the actual project for about 3 weeks total. For example, the first week could be spent on a detailed literature review and a brief feasibility study or setting up any software or hardware you may need for your project. Then break up the remaining 2 weeks into specific tasks and assign the time you think it will take you to complete each task. If you work in a team, break the tasks up for each team member. These milestones should be compiled as a table or an itemized list in Latex and it will give you a good plan for when you want to do what.

Submit your writing assignment by emailing it directly to the course staff mailing list (see website), but please email only the pdf and not the Latex files. Make sure to include your name and your project title on top of the first page of your proposal.

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[1]Look at previous course projects to get a sense for the scope and possible topics for your project: http://stanford.edu/class/ee267/projects.html

Getting started with Latex

Latex is a type setting system that is used for compiling technical documents into pdf format. Latex documents have the ending *.tex* but you can think of them as text files. These files contain all the text of your report but they also contain information about how to render that text in the document, including font family, font size, margins, etc. In addition, Latex helps you lay out figures, equations, tables, citations, and other things you may need for your report. The Latex project report template provided on our website will make it very easy to get started. It already contains all the formatting information, so you only need to fill in the content (i.e., text, figures, and tables) and then compile the document.

If you have never used Latex before, go through a brief tutorial first, such as this one, to familiarize yourself with Latex notation. Even people who use Latex on a regular basis don't always remember all the Latex symbols. Online references will come in handy; for example, this overview of mathematical symbols used in Latex is extremely useful.

If you do not have Latex installed on your computer, you will have to do that first. To test if Latex is installed on your computer, open the terminal/console and type *latex*. If the command is not found, you'll have to install it. The most widely used Latex package is probably MikTeX, which is available for Windows, Mac, and Linux. Go ahead and download that. The package is pretty big, so it may take a few minutes to download and install it.

To make working with Latex convenient, many users prefer a Latex writing environment over a simple text editor. Useful environments include TEXnicCenter for Windows and TeXstudio for Mac. An environment will provide you with a convenient way to compile Latex documents to pdfs and also provide a lot of tools and shortcuts for creating tables, figures, mathematical symbols, etc.

References to scientific papers are usually done using bibtex, which is part of your Latex package. A bibtex *.bib* file is also a text file, but it only contains a list of all the references that you want to cite in your report. It uses a special format, which is for example outlined here. An example bibtex file for your references is already included in the project report template, so add your references there and simply copy & paste the appropriate format from other references that are already listed in that template file.

All edits should be made in the file *proposal_yourlastname.tex*. You can compile it to pdf with your Latex environment or using the terminal/console with the following commands:

- *pdflatex filename.tex*
- *bibtex filename*
- *pdflatex filename.tex*
- *pdflatex filename.tex*

It's a bit annoying to have to type in all of these commands to compile a single document, but it is necessary because only with this sequence of compilations will your citations be rendered correctly. Good luck and please consult the internet or the instructors if you have any additional questions regarding Latex.