CSCI 39594: Project Proposal

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For our visualization project, we have decided to create a scientific visualization on the molecular differences between the Influenza (the Flu virus) and the Coronavirus (COVID-19). We have agreed to use VMD as our SciVis tool, as it is an excellent tool to show the molecular dynamics. So far, we have managed to find some Flu and COVID-19 data from https://www.rcsb.org/.

Milestone Plan

Week 1: Literature Review on Scientific Visualization, picking of the best tool to visualize the Coronavirus molecule.

Week 2: Data Acquisition: search for the best dataset to present the project (dataset for Coronavirus molecule and the regular flu molecule), flashing out our rationale. Literature review on Covid visualization.

Week 3: Working on the methodology: Data Cleaning, Analysis, Representation, Interaction. Literature review on EDA. Setting up the coding environment, VMD.

Week 4: Creating the basic look of molecules, working on the features to present it as realistic as possible. Splitting up the work: 2 team members work on Coronavirus visualization, the other two on the regular flu molecule visualization.

Week 5-6: Polishing the work, setting up the interactive features. Writing the report in LaTeX format. Getting the feedback on work's progress from the Professor Oyekoya.

Week 7-8: Making the visualization to tell the story. Implementing the feedback from professor to improve the project.

Week 9-10: Finishing up the demo version, the report.

Week 11: Presenting the demo and the report.