

Computational-aided Poster Design Assessment to Facilitate Science Communication

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In my research, I set out to develop a program that could take in scientific research posters made with PowerPoint and automatically edit and optimize them. These optimizations would enhance legibility and organization, as well as overall aesthetic. In use, this program would be able to help students and researchers alike with their poster projects. The program would also be integrated into a website for public availability and ease of use. My teammate, Michelle Luan, worked to create a website, which provides a comprehensive, intuitive user interface and experience for the program.

To begin, I searched for examples of real research posters online. These posters, along with existing guides, helped me to list all the common qualities seen on legible, neat scientific posters. Using the Python coding language, I was able to first write two sets of code which generated brand new research posters as PowerPoint files. Each program used our poster guidelines to create and save either an example of good or poor poster design. After using code to create every single element of the poster (without ever needing to open Microsoft PowerPoint, Google Slides, or a similar application), I was better able to pinpoint what parts of the code led to good design qualities in the poster versus aspects that could use improvement.

Next, I set out to write an analyzer program which could open and provide feedback on a given poster file. Th