

I Beyond Benchmarks

SELF-REFINE demonstrates its iterative feedback and refinement capabilities in the context of website layout generation. ChatGPT initially produces a rudimentary layout for a given topic, and then uses the FEEDBACK to suggest specific, actionable improvements, as demonstrated in Figures 7 and 9. These suggestions range from design changes such as color and font adjustments, to content enhancements and layout modifications. Figures 8 and 10 showcase the final layouts, post-feedback implementation, highlighting the potential and versatility of SELF-REFINE across different scenarios.

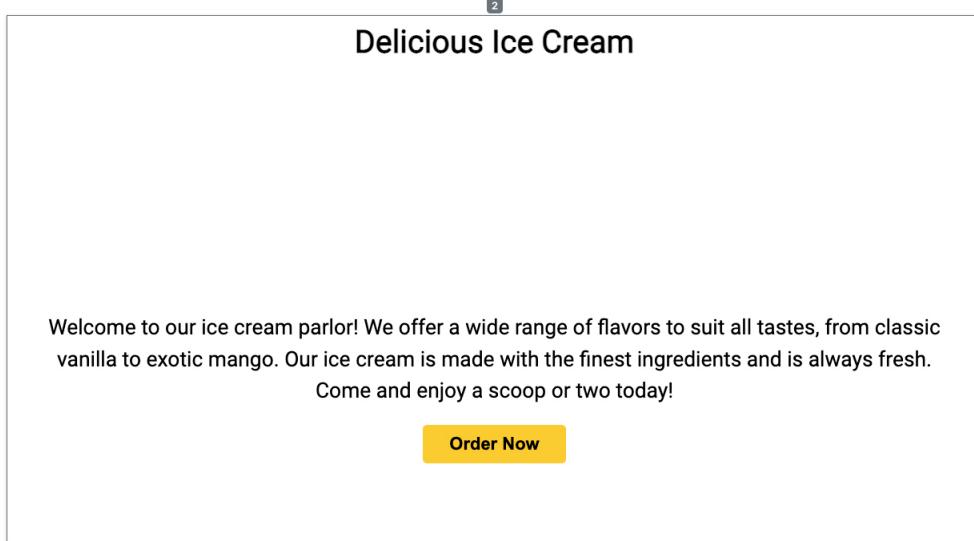


Figure 7: Initial web layout generated by our model for a fictional ice cream parlor.

Ice Cream Generation The feedback generated by FEEDBACK for ice cream generation:

- Change the background color of the container to a light blue color (#6f2ff).
- Change the font size of the heading to 48px.
- Add a small icon before the "Welcome to our ice cream parlor!" text using the URL <https://cdn-icons-png.flaticon.com/512/3622/3622340.png>.
- Add an additional paragraph after the existing text with the following text: "We also offer a variety of toppings and cones to complement your ice cream. Visit us today to try our latest flavors and indulge in a sweet treat!"
- Increase the font size of the button text to 24px.
- Update the button color to #9933.

Photosynthesis The feedback generated by FEEDBACK for photosynthesis:

- Increase the font size of the text to 18px for better readability.
- Add more information about the benefits of photosynthesis.
- Remove the unnecessary margin-top from the header.
- Add a ruler or divider below the header to separate it from the image.

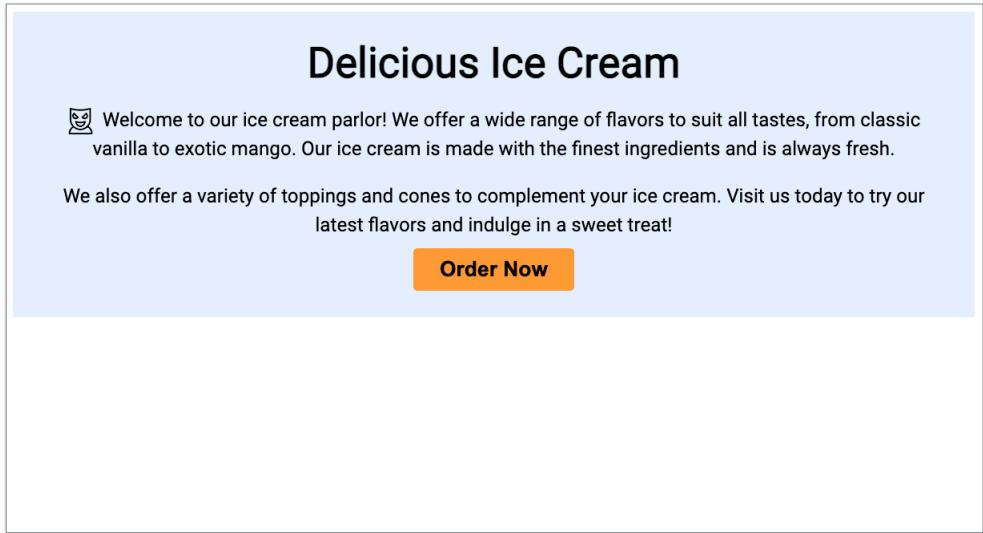


Figure 8: Refined web layout after applying model feedback. The feedback included changing the background color to light blue (#6f2ff), increasing the heading font size to 48px, adding an icon before the welcome text, enhancing the content with an additional paragraph, increasing the button text size to 24px, and updating the button color to #9933.

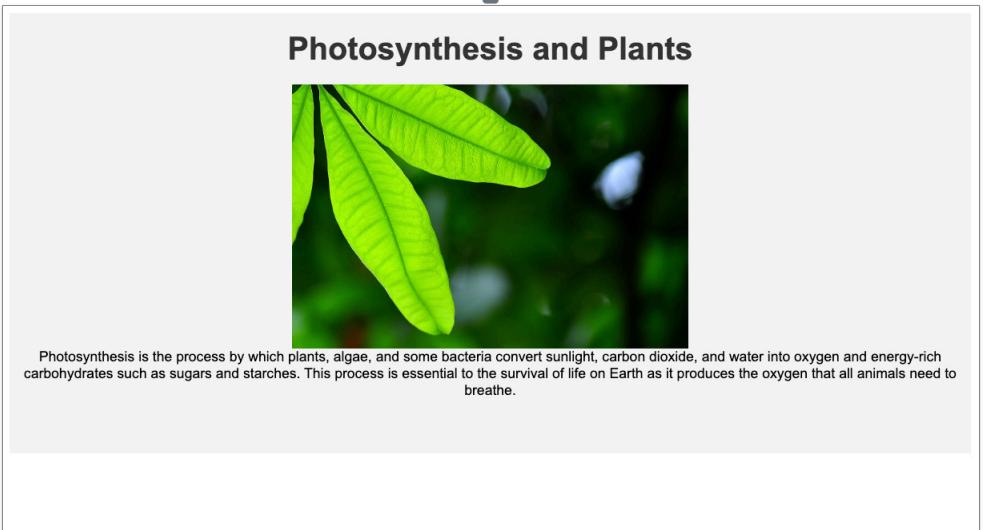
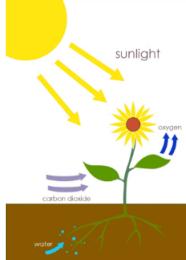


Figure 9: Initial web layout generated by our model for a page on photosynthesis.

Photosynthesis and Plants



Photosynthesis is the process by which plants, algae, and some bacteria convert sunlight, carbon dioxide, and water into oxygen and energy-rich carbohydrates such as sugars and starches. This process is essential to the survival of life on Earth as it produces the oxygen that all animals need to breathe. Additionally, photosynthesis plays a major role in regulating the levels of carbon dioxide in the atmosphere, which helps to mitigate the effects of global warming and climate change.

Figure 10: Refined web layout after applying model feedback. The feedback included increasing the text font size to 18px for better readability, adding more information about the benefits of photosynthesis, removing the unnecessary margin-top from the header, and adding a ruler or divider below the header to separate it from the image.