How to use super-resolution and improve onsite image quality

30-second summary:

- There’s “super-resolution” technology that can greatly improve the quality of your website images.
- Higher resolution images have multiple benefits, including being preferred by Google and being more likely to attract attention and be shared.
- There are a few considerations before using super-resolution, including the impact it can create for on-site speed.
- Fractl’s VP of Creative, Kristin Tynski, shares a concise instructional guide to help you understand super-resolution and how you can apply it to your images.
- Find out how keeping abreast of this AI revolution will keep you ahead of the curve and help with digital marketing

A few years ago, “zoom and enhance” was an internet meme making fun of CSI-style shows using a technology that didn’t really exist. Taking a very low-resolution image and zooming in/enhancing it wasn’t something that could be done as depicted.

However, in the last few years, new modern artificial intelligence (AI) models have changed that. The so-called “super-resolution” can now be done with pretty stunning results. Even better, the models and underlying code are open-sourced, meaning anyone can upscale their images using these new, state-of-the-art AI models.

I’m going to reveal how you can easily utilize this technology to automatically upscale your website images in bulk and why it can be beneficial.

The advantages of super-resolution

Super-resolution is probably best suited for e-commerce sites that don’t have super high-quality images and instead have small images provided by manufacturers, drop shippers or other ecommerce middlemen.

Here’s a look at the kind of quality increase you could expect from this process.

Source: Imgur Album

You can see more full-size examples here. The differences are more apparent the larger the image is zoomed.

There are many potential benefits to super-resolution:

- Google prefers unique/non-duplicate images that it hasn’t seen before. It seems likely that applying super-resolution to a stock image or an ecommerce image that is widely used by many sites (and exists many times in the index) might make that super-resolution image the canonical “best version” of that image online, possibly leading to improved ranking benefits.

- Higher resolution images are more often linked to and shared vs their lower-resolution counterparts.
- Higher resolution images are more likely to attract and retain the attention of visitors, likely leading to increased on-site engagement metrics (lower bounce rate, higher time on site, etc.), which are known to be important factors in search rankings.

However, there are some other factors to consider before proceeding. Site speed is a key SEO ranking metric. Increasing image resolution typically also means increasing image size. The tradeoff between quality and image size is an important one, and you should have an idea of how upscaling images may impact page load times.

If you already have only high-quality images, as you should, upscaling likely isn't worthwhile.

Super-resolution upscaling also doesn't do particularly well with text. It can create artifacts that decrease overall image quality. However, it works much better for images without text.

Despite those caveats, if you still think the increase in quality would be useful for you like the examples below, keep reading.

Implementing super-resolution on your site's images

This guide requires that you sign up for two APIs:

1. SerpAPI – Used for scraping all indexed images from Google Image search
2. DeepAI Super Resolution – Used for performing the super-resolution enhancements on each image

While it's possible to achieve what is outlined here without

relying on paid APIs, it does drastically simplify the process for relatively inexpensive API usage rates. If you have an ongoing need for using super-resolution on your images, implementing these models from their open-source base code is probably your least expensive bet.

Using super-resolution on your images

Here's what to do:

- Copy this Google Collaboratory notebook to your own drive.
- Replace Frac.tl with your own domain in the code in the fifth cell.
- Replace the API key in the fifth cell with the API key you get from SerpAPI.
- Replace the API key in the seventh cell with the API key you get from DeepAI.org
- Run each cell sequentially

The code does the following

- Scrapes all Google Image results for the domain given and downloads them into the images folder
- Gets the URL for each image in the image folder after they have been scraped and gives them to the Deepai.org super-resolution API
- Gets the super-resolution images from the Deepai API and downloads them to the super images folder

Conclusion

We are now at a tipping point in the emergence and democratization of AI-driven models that can do magical things. Learning Python opens up a huge new world where open-source code and open-source trained models now give even programming novices the opportunity to leverage these

technologies for a huge variety of digital marketing goals.

Keeping abreast of this AI revolution will not only keep you ahead of the curve but will also give you the opportunity to be among the first to apply these advancements in new and creative ways, addressing previously unaddressable problems and challenges in our space.

Kristin Tynski is VP of Creative at Fractl, a prominent growth marketing agency that's worked with Fortune 500 companies and boutique businesses.

More about:

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