[Open in app](https://rsci.app.link/?%24canonical_url=https%3A%2F%2Fmedium.com%2Fp%2Ff61622869fa7&%7Efeature=LoOpenInAppButton&%7Echannel=ShowPostUnderCollection&%7Estage=mobileNavBar&source=---three_column_layout_nav----------------------------------)

[Get started](https://medium.com/m/signin?operation=register&redirect=https%3A%2F%2Ftowardsdev.com%2Fhow-to-apply-filters-to-images-with-python-f61622869fa7&source=post_page---three_column_layout_nav-----------------------three_column_layout_nav-----------)

[](https://medium.com/m/signin?operation=login&redirect=https%3A%2F%2Ftowardsdev.com%2Fhow-to-apply-filters-to-images-with-python-f61622869fa7&source=post_page---three_column_layout_nav-----------------------lo_home_nav-----------)

[](https://towardsdev.com/?source=post_page-----f61622869fa7--------------------------------)

Published in

[Towards Dev](https://towardsdev.com/?source=post_page-----f61622869fa7--------------------------------)

[](https://medium.com/@juanbenitezdev?source=post_page-----f61622869fa7--------------------------------)

[Juan Benitez](https://medium.com/@juanbenitezdev?source=post_page-----f61622869fa7--------------------------------)

[Follow](https://medium.com/m/signin?actionUrl=https%3A%2F%2Fmedium.com%2F_%2Fsubscribe%2Fuser%2F7d709da64014&operation=register&redirect=https%3A%2F%2Ftowardsdev.com%2Fhow-to-apply-filters-to-images-with-python-f61622869fa7&user=Juan+Benitez&userId=7d709da64014&source=post_page-7d709da64014----f61622869fa7---------------------follow_byline-----------)

Dec 22, 2021

·

4 min read

·

Listen

[Save](https://medium.com/m/signin?actionUrl=https%3A%2F%2Fmedium.com%2F_%2Fbookmark%2Fp%2Ff61622869fa7&operation=register&redirect=https%3A%2F%2Ftowardsdev.com%2Fhow-to-apply-filters-to-images-with-python-f61622869fa7&source=--------------------------bookmark_header-----------)

# How to apply filters to images with Python



A few weeks ago, we received a new ticket: “Users want to be able to apply filters to their pictures”, yes, something like Instagram does. We immediately thought about the Lightroom API, but after some research, we came to the conclusion that it doesn’t quite meet our needs. We were searching for something like a library, where we can just load the image, apply the filters and then save the new image with the filters applied, since we couldn’t find it we decided to build one.

## FImage

[**FImage**](https://github.com/jordandjp/fimage) is a Python module to apply and create multiple filters to images, it exposes an API that you can use for applying the different color transformations to the images. It works by converting the image to an RGB matrix and applying different math formulas to it. We used [NumPy](https://numpy.org/" \t "_blank) for all the matrix operations since it is faster and optimized, and [Pillow](https://pillow.readthedocs.io/en/stable/) for handling the loading and saving of the images.

## How to use it?

First, we need to install it, for this you need to be using Python 3.6 or greater to be able to use **FImage**.

pip install fimage

And for these examples, I’m gonna use this picture to apply it filters:



my\_picture.jpg

## Applying a simple filter

Create a file app.py with:

from fimage import FImage  
from fimage.filters import Sepia  
  
  
def main():  
 # replace 'my\_picture.jpg' with the path to your image  
 image = FImage('my\_picture.jpg')  
  
 # apply the Sepia filter to the image  
 image.apply(Sepia(90))  
  
 # save the image with the applied filter  
 image.save('my\_picture\_sepia.jpg')  
  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

Now, just run it :

python app.py

And this is how the new image my\_picture\_sepia.jpg looks like after the filter was applied.



my\_picture\_sepia.jpg

## Applying multiple filters

**FImage** offers more filters besides the Sepia one, even you can combine multiples filters to give a better look to your picture.

Modify the file app.py to import more filters from FImage

from fimage import FImage  
from fimage.filters import Contrast, Brightness, Saturation  
  
  
def main():  
 image = FImage('my\_picture.jpg')  
  
 # apply the mutiple filters to the image  
 image.apply(  
 Saturation(20),  
 Contrast(25),  
 Brightness(15)  
 )  
  
 # save the image with the applied filter  
 image.save('my\_picture\_mixed.jpg')  
  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

We run it by

python app.py

And our new my\_picture\_mixed.jpg looks like



my\_picture\_mixed.jpg

The order in which the filters are passed to the apply function matters, this is because the filters are applied sequentially, so the next filter will be applied over the resultant image from the previous one.

## Presets

Presets are just the combinations of multiple filters with already defined adjustment values.

Let’s change our app.py one more time to use the Presets

from fimage import FImage  
from fimage.presets import SinCity  
  
  
def main():  
 # replace 'my\_picture.jpg' with the path to your image  
 image = FImage('my\_picture.jpg')  
  
 # apply the SinCity preset to the image  
 image.apply(SinCity())  
  
 # save the image with the applied preset  
 image.save('my\_picture\_sincity.jpg')  
  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

After we run it, we get our new my\_picture\_sincity.jpg



my\_picture\_sincity.jpg

## Custom Presets

If you like the look your picture got after testing different filters and want to store this combination for applying it to more pictures, you can create your own Preset by just extending the Preset Class and specifying these filters and their adjust values in it.

In our app.py let’s do

from fimage import FImage  
from fimage.presets import Preset  
from fimage.filters import Contrast, Brightness, Saturation  
  
  
# Create my custom preset and specify the filters to apply  
class MyOwnPreset(Preset):  
 transformations = [  
 Contrast(30),  
 Saturation(50),  
 Brightness(10),  
 ]  
  
  
def main():  
 # replace 'my\_picture.jpg' with the path to your image  
 image = FImage('my\_picture.jpg')  
  
 # apply MyOwnPreset to the image  
 image.apply(MyOwnPreset())  
  
 # save the image with the applied preset  
 image.save('my\_picture\_custom.jpg')  
  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

The new my\_picture\_custom.jpg



my\_picture\_custom.jpg

This is the basic usage of **FImage**, we are still developing it, and it would be really great any feedback or contribution you have.

[GitHub Repo](https://github.com/jordandjp/fimage)

13

1

## **Sign up for The All-In-One Newsletter for Developers**

### **By Towards Dev**

Every week, We'll send you Towards Dev's Latest Interviews And Articles, Curated Beautifully to Your Inbox [Take a look.](https://medium.com/towardsdev/newsletters/the-all-in-one-newsletter-for-developers?source=newsletter_v3_promo--------------------------newsletter_v3_promo-----------)

By signing up, you will create a Medium account if you don’t already have one. Review our [Privacy Policy](https://policy.medium.com/medium-privacy-policy-f03bf92035c9?source=newsletter_v3_promo--------------------------newsletter_v3_promo----------467d325126bc-) for more information about our privacy practices.

[Get this newsletter](https://medium.com/m/signin?actionUrl=%2F_%2Fapi%2Fsubscriptions%2Fnewsletters%2F467d325126bc&operation=register&redirect=https%3A%2F%2Fmedium.com%2Ftowardsdev%2Fnewsletters%2Fthe-all-in-one-newsletter-for-developers&collection=Towards+Dev&collectionId=a648dc4ecb66&newsletterV3=The+All-In-One+Newsletter+for+Developers&newsletterV3Id=467d325126bc&user=Towards+Dev&userId=b2836a637ba8&source=--------------------------newsletter_v3_promo----------467d325126bc-)

## [**More from Towards Dev**](https://towardsdev.com/?source=post_page-----f61622869fa7--------------------------------)

[Follow](https://medium.com/m/signin?actionUrl=https%3A%2F%2Fmedium.com%2F_%2Fsubscribe%2Fcollection%2Ftowardsdev%2Ff61622869fa7&operation=register&redirect=https%3A%2F%2Ftowardsdev.com%2Fhow-to-apply-filters-to-images-with-python-f61622869fa7&collection=Towards+Dev&collectionId=a648dc4ecb66&source=post_page-----f61622869fa7---------------------follow_footer-----------)

A publication for sharing projects, ideas, codes, and new theories.

[Hatice K. Erdogan](https://medium.com/@kastanhatice?source=post_page-----f61622869fa7----0----------------------------)

[Hatice K. Erdogan](https://medium.com/@kastanhatice?source=post_page-----f61622869fa7----0----------------------------)

[·Dec 21, 2021](https://towardsdev.com/a-beginners-guide-to-hadoop-c698a2cc601b?source=post_page-----f61622869fa7----0----------------------------)

## [A Beginner’s Guide to Hadoop](https://towardsdev.com/a-beginners-guide-to-hadoop-c698a2cc601b?source=post_page-----f61622869fa7----0----------------------------)

[Hadoop](https://medium.com/tag/hadoop?source=post_page-----f61622869fa7---------------hadoop-----------------)

[6 min read](https://towardsdev.com/a-beginners-guide-to-hadoop-c698a2cc601b?source=post_page-----f61622869fa7----0----------------------------)

[](https://towardsdev.com/a-beginners-guide-to-hadoop-c698a2cc601b?source=post_page-----f61622869fa7----0----------------------------)

Share your ideas with millions of readers.

[Write on Medium](https://medium.com/new-story?source=post_page_footer_cta_write-------------------------------------)

[Sofien Kaabar, CFA](https://kaabar-sofien.medium.com/?source=post_page-----f61622869fa7----1----------------------------)

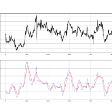
[Sofien Kaabar, CFA](https://kaabar-sofien.medium.com/?source=post_page-----f61622869fa7----1----------------------------)

[·Dec 21, 2021](https://towardsdev.com/the-true-strength-index-coding-technical-indicators-81321778a0f9?source=post_page-----f61622869fa7----1----------------------------)

## [The True Strength Index — Coding Technical Indicators.](https://towardsdev.com/the-true-strength-index-coding-technical-indicators-81321778a0f9?source=post_page-----f61622869fa7----1----------------------------)

[Data Science](https://medium.com/tag/data-science?source=post_page-----f61622869fa7---------------data_science-----------------)

[7 min read](https://towardsdev.com/the-true-strength-index-coding-technical-indicators-81321778a0f9?source=post_page-----f61622869fa7----1----------------------------)

[](https://towardsdev.com/the-true-strength-index-coding-technical-indicators-81321778a0f9?source=post_page-----f61622869fa7----1----------------------------)

[Ludivine Achouri](https://medium.com/@la.dev?source=post_page-----f61622869fa7----2----------------------------)

[Ludivine Achouri](https://medium.com/@la.dev?source=post_page-----f61622869fa7----2----------------------------)

[·Dec 21, 2021](https://towardsdev.com/git-commands-you-must-know-d217bf710502?source=post_page-----f61622869fa7----2----------------------------)

## [Git commands you must know](https://towardsdev.com/git-commands-you-must-know-d217bf710502?source=post_page-----f61622869fa7----2----------------------------)

[Git](https://medium.com/tag/git?source=post_page-----f61622869fa7---------------git-----------------)

[4 min read](https://towardsdev.com/git-commands-you-must-know-d217bf710502?source=post_page-----f61622869fa7----2----------------------------)

[](https://towardsdev.com/git-commands-you-must-know-d217bf710502?source=post_page-----f61622869fa7----2----------------------------)

[Amit Raj](https://amit894.medium.com/?source=post_page-----f61622869fa7----3----------------------------)

[Amit Raj](https://amit894.medium.com/?source=post_page-----f61622869fa7----3----------------------------)

[·Dec 21, 2021](https://towardsdev.com/deploying-on-azure-functions-github-actions-a8f2a98acc0f?source=post_page-----f61622869fa7----3----------------------------)

## [Deploying on Azure Functions- GitHub Actions](https://towardsdev.com/deploying-on-azure-functions-github-actions-a8f2a98acc0f?source=post_page-----f61622869fa7----3----------------------------)

[Dev Ops](https://medium.com/tag/devops?source=post_page-----f61622869fa7---------------devops-----------------)

[3 min read](https://towardsdev.com/deploying-on-azure-functions-github-actions-a8f2a98acc0f?source=post_page-----f61622869fa7----3----------------------------)

[](https://towardsdev.com/deploying-on-azure-functions-github-actions-a8f2a98acc0f?source=post_page-----f61622869fa7----3----------------------------)

[thecodexhub](https://medium.com/@thecodexhubofficial?source=post_page-----f61622869fa7----4----------------------------)

[thecodexhub](https://medium.com/@thecodexhubofficial?source=post_page-----f61622869fa7----4----------------------------)

[·Dec 21, 2021](https://towardsdev.com/flutter-sqlite-database-persist-data-with-sqflite-74283c51b9a2?source=post_page-----f61622869fa7----4----------------------------)

## [Flutter SQLite Database - Persist Data with sqflite](https://towardsdev.com/flutter-sqlite-database-persist-data-with-sqflite-74283c51b9a2?source=post_page-----f61622869fa7----4----------------------------)

[Flutter](https://medium.com/tag/flutter?source=post_page-----f61622869fa7---------------flutter-----------------)

[6 min read](https://towardsdev.com/flutter-sqlite-database-persist-data-with-sqflite-74283c51b9a2?source=post_page-----f61622869fa7----4----------------------------)

[](https://towardsdev.com/flutter-sqlite-database-persist-data-with-sqflite-74283c51b9a2?source=post_page-----f61622869fa7----4----------------------------)

[Read more from Towards Dev](https://towardsdev.com/?source=post_page-----f61622869fa7--------------------------------)

## **Recommended from Medium**

[Christiaan Verwijs](https://chrisverwijs.medium.com/?source=post_internal_links---------0----------------------------)

[Christiaan Verwijs](https://chrisverwijs.medium.com/?source=post_internal_links---------0----------------------------)

in

[The Liberators](https://medium.com/the-liberators?source=post_internal_links---------0----------------------------)

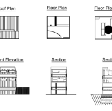
## [What Makes A Developer Culture?](https://medium.com/the-liberators/what-makes-a-developer-culture-e10232d0b40c?source=post_internal_links---------0----------------------------)

[](https://medium.com/the-liberators/what-makes-a-developer-culture-e10232d0b40c?source=post_internal_links---------0----------------------------)

[Chloe Mackay](https://medium.com/@cmac863?source=post_internal_links---------1----------------------------)

[Chloe Mackay](https://medium.com/@cmac863?source=post_internal_links---------1----------------------------)

## [OVER AND AWAY — MIKE DAVIS](https://medium.com/@cmac863/over-and-away-mike-davis-2f30b0da575a?source=post_internal_links---------1----------------------------)

[](https://medium.com/@cmac863/over-and-away-mike-davis-2f30b0da575a?source=post_internal_links---------1----------------------------)

[Tara Ojo](https://tara-ojo.medium.com/?source=post_internal_links---------2----------------------------)

[Tara Ojo](https://tara-ojo.medium.com/?source=post_internal_links---------2----------------------------)

## [Widen your impact as an engineer](https://tara-ojo.medium.com/widen-your-impact-as-an-engineer-2360a12d5026?source=post_internal_links---------2----------------------------)

[](https://tara-ojo.medium.com/widen-your-impact-as-an-engineer-2360a12d5026?source=post_internal_links---------2----------------------------)

[Tangram](https://tangram-network.medium.com/?source=post_internal_links---------3----------------------------)

[Tangram](https://tangram-network.medium.com/?source=post_internal_links---------3----------------------------)

in

[Tangram](https://medium.com/tangram-tgm?source=post_internal_links---------3----------------------------)

## [Test-net0 Release](https://medium.com/tangram-tgm/test-net0-release-ac5ad5d691ae?source=post_internal_links---------3----------------------------)

[](https://medium.com/tangram-tgm/test-net0-release-ac5ad5d691ae?source=post_internal_links---------3----------------------------)

[De Jun Huang](https://dejunhuang.medium.com/?source=post_internal_links---------4----------------------------)

[De Jun Huang](https://dejunhuang.medium.com/?source=post_internal_links---------4----------------------------)

in

[dejunhuang](https://medium.com/dejunhuang?source=post_internal_links---------4----------------------------)

## [Learning Day 29: LSTM in Pytorch](https://medium.com/dejunhuang/learning-day-29-lstm-in-pytorch-7ef29ca6b651?source=post_internal_links---------4----------------------------)

[Locked Dorr Security](https://medium.com/@LDS_Cyber?source=post_internal_links---------5----------------------------)

[Locked Dorr Security](https://medium.com/@LDS_Cyber?source=post_internal_links---------5----------------------------)

## [Import vmdk Virtual Disk from OVF into ProxMox](https://medium.com/@LDS_Cyber/import-vmdk-virtual-disk-from-ovf-into-proxmox-64653435a04f?source=post_internal_links---------5----------------------------)

[](https://medium.com/@LDS_Cyber/import-vmdk-virtual-disk-from-ovf-into-proxmox-64653435a04f?source=post_internal_links---------5----------------------------)

[Marco Biedermann](https://marcobiedermann.medium.com/?source=post_internal_links---------6----------------------------)

[Marco Biedermann](https://marcobiedermann.medium.com/?source=post_internal_links---------6----------------------------)

## [Weekly Digest 10/2022](https://marcobiedermann.medium.com/weekly-digest-10-2022-4287183f7f55?source=post_internal_links---------6----------------------------)

[](https://marcobiedermann.medium.com/weekly-digest-10-2022-4287183f7f55?source=post_internal_links---------6----------------------------)

[Jorge R.](https://medium.com/@math21?source=post_internal_links---------7----------------------------)

[Jorge R.](https://medium.com/@math21?source=post_internal_links---------7----------------------------)

## [How to backup your database from a MySQL Docker container](https://medium.com/@math21/how-to-backup-your-database-from-a-mysql-docker-container-3fdd5769bad1?source=post_internal_links---------7----------------------------)