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VOL. XXXVI - No. IV

Promoting Computer Literacy and Education in Charlotte County. The largest gathering of computer knowledge in Charlotte County.

Events Calendar

Charlotte Bytes

Editor: A Yvette Pilch

April 4, 2023

Military Heritage Museum
Auditorium, 1st Floor
900 W Marion St.
Punta Gorda, FL

6:00 pm—Open Forum

7:00 pm— Member Mtg

No Zoom Available

INSIDE THIS ISSUE

CCCGC President's Message
Mary Fleenor, President

Members:

The next CCCGC general meeting will be on Tuesday, April 4, 2023 at the Military Heritage Museum in Punta Gorda. The Open Forum (general questions and answers) will begin at 6PM, followed by the main program at 7PM. This month's topic will be "Do This Before Starting Your Vacation" presented by Ron Brown cohost of Tech for Senior on preparing your technology when planning a vacation.

The Favorite of the Month for April is Uberduck.ai, which converts text to speech, and enables the text to sound like it's being read by a famous figure, such as a celebrity or even a fictional character.

Please check the Events Calendar for the course offerings and click the links to register. Remember all classes are free to members! Please notify the instructor if you have questions you would like answered in the scheduled session. Let us know if you have special knowledge you would like to share with us as an instructor or presenter.

Know anyone who needs a little sunshine due to illness, injury or loss of a loved one? Contact the office and let us know.

If you would like to contribute to CCCGC by volunteering in the office on the front desk or providing technical support, becoming an instructor/presenter or have suggestions to improve CCCGC, please contact us. Looking forward to getting your input: **cccgcoffice@gmail.com**, **941-585-0356** or click on the **Suggestion Box** on **http://cccgc.info/**.

Stay safe and healthy!

Mary Fleenor, President

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Welcome New Members

Karen Noonan	Remy Segovia	Bernard Renois
Debbie Sawall	Carole Thorn	
Victor Conte	Barbara Troike	
Larry Couch	Karen Auustyn	
Marie DeMilio Buch-man	Joanne Lemay	
Arthur Donaldson	Mickey Lemay	
Joan Sala	Robert Moore	

The Executive Board of Directors and Members of CCCGC welcome each of you to the group. We're here to help. Membership has its privileges.

If you have any questions, concerns or need computer help, please contact us at the office, by telephone or via the website. We will endeavor to help you any way we can.

2023 Officers & Directors

President
Mary Fleenor
cccgcpresident@gmail.com

Vice President
Gary Skillicorn
cccgcvp@gmail.com

Secretary
Ron Muschong
cccgcsecretary@gmail.com

Treasurer
Lydia Rist
cccgctreasurer@gmail.com

Mary Burne

Kinga Cook

Tony Flores

Mark Krider

Fran Robitaille

It is a pleasure to serve you in 2023 thru classes, presentations and individual assistance.

Please help to spread the word about CCCGC to your friends and neighbors.

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March Member Meeting Report

No Information Received

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Future Events & Presentations

[March 2023 CCCGC Classes & Programs]

Mar 7 Member Meeting
Member Meeting
Military Heritage Musuem Auditorium
900 W Marion St, Punta Gorda
6-7 PM Open Forum
7–8 PM General Member Meeting

Mar 6 ipad and iphone
2-4 PM Office
Rose Kopenec

Mar 9 Maintenance
2-4 PM Office
Lydia Rist

Mar 14 Open Forum
2-4 PM, Office + Zoom
Mary Fleenor
Fleenor Class Link

Mar 16 Zoom Basics
2-4 PM, Office
Mark Krider

Mar 23 Maintenance
2-4 PM, Office
Lydia Rist

Feb 24 Board of Director Meeting
2:00 pm
514 E Grace St, Punta Gorda
CCCGC BdMtg

An International Association of Technology and Computer User Groups

As members of CCCGC, you are automatically members of Association of Personal Computer User group (APCUG) who offer free ZOOM classes and presentations to members. However, you must register with them to attend. Check the website for course options and registration: https://apcug2.org/

APCUG past presentations can be viewed on YouTube. These are handy links for review if you attended them or had to miss the original presentation. Click the link below to see all the options.

https://www.youtube.com/results?search_query=apcug

"Do This Before Starting Your Vacation" presented by Ron Brown cohost of Tech for Senior on preparing your technology when planning a vacation.

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Computer/Tech Information

Why Every Photo You Take Is "Fake"

ANDREW HEINZMAN

@andrew_andrew__

MAR 15, 2023, 6:12 PM EDT | 5 min read

Someone taking a photo with a Samsung Galaxy S23 Ultra smartphone.

Justin Duino / Review Geek

Smartphones are under fire for "faking" or "cheating" high-quality photos. But every photo in existence contains some fakery, and it's not a bad thing.

Artificial intelligence has invaded your smartphone camera with a singular goal—to ruin your photos and fill your head with lies! At least, that's the idea you might see in some headlines. Smartphone camera technology is advancing rapidly, leading to some confusion about what's "real" and "fake."

Well, I've got good news; every photo in existence is "fake." It doesn't matter if it was shot on a smartphone from 2023 or a film camera from 1923. There is always some trickery going on behind the scenes.

Table of Contents

The Physical Constraints of Phone Cameras

If you stuck a full-sized camera lens on a phone, it would be a monstrosity. Smartphones need to be small, compact, and somewhat durable, so they tend to utilize incredibly small camera sensors and lenses.

This teensy-weensy hardware creates several physical constraints. While a smartphone may have a 50MP sensor, the sensor's size is actually quite small, meaning that less light can reach each pixel. This leads to reduced low-light performance and can introduce noise to an image.

Lens size is also important. Tiny camera lenses can't bring in a ton of light, so you end up with a reduced dynamic range and, once again, reduced low-light performance. A tiny lens also means a small aperture, which cannot produce a shallow depth of field for background-blur or "bokeh" effects.

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At a physical level, smartphones cannot take high-quality photos. Advancements in sensor and lens technology have greatly improved the quality of smartphone cameras, but the best smartphone cameras come from brands that utilize "computational photography."

Phone Cameras Use Software to "Cheat"

Justin Duino / Review Geek

The best smartphone cameras come from Apple, Google, and Samsung—three leaders in

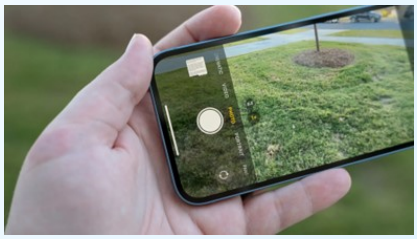
software development. This is no coincidence. In order to push past the hardware constraints of smartphone cameras, these brands use "computational photography" to process and enhance photos.

Smartphones use multiple computational photography techniques to produce a high-quality image. Some of these techniques are predictable; a phone will automatically adjust the color and white balance of a photo, or it may "beautify" a subject by sharpening and brightening their face.

But the most advanced computational photography techniques go beyond simple image editing.

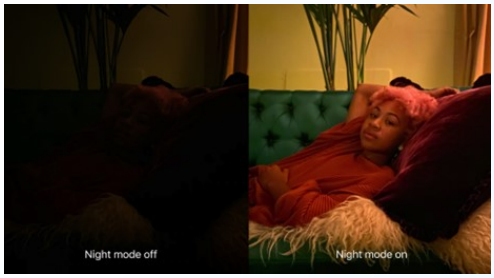
Take "stacking," for instance. When you press the shutter button on your phone, it takes multiple images within the span of a few milliseconds. Each image is made with slightly different settings—some are blurry, some are overexposed, and some are zoomed in. All of these photos are combined to produce an image with a high dynamic range, strong colors, and minimal motion blur.

An example of night photography on the iPhone 11.



Apple

Stacking is the key concept behind HDR photography, and it's the starting point for a large number of computational photography algorithms. Night mode, for example, uses stacking to produce a bright nighttime image without a long exposure time (which would introduce motion blur and other problems).



And, as I mentioned earlier, smartphone cameras cannot produce a shallow depth of field. To get around this problem, most smartphones offer a portrait mode that uses software to estimate depth. The results are pretty hit or miss, especially if you have long or frizzy hair, but it's better than nothing.

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Computer/Tech Information cont.

This is nothing new

A very broken camera

The best example of this "cheating" is Samsung's "moon controversy." To advertise the Galaxy S22 Ultra's zoom capabilities, Samsung decided to create a lunar photography algorithm. Basically, it's an AI that makes crappy pictures of the moon look slightly less crappy by adding details that don't exist in the original image. It's a useless feature, but if you need to take a photo of the moon with a camera that's smaller than a penny, I'd reckon that some "cheating" is necessary.

That said, I am concerned by the misleading ways that some companies market their computational photography tools. And my biggest gripe is the "shot on iPhone" or "shot on Pixel" nonsense that phonemakers peddle out each year. These advertisements are made with million-dollar budgets, big fat add-on lenses, and professional editing. The idea that you could reproduce one of these advertisements with nothing but a smartphone is a stretch, if not an outright lie.

Some people believe that computational photography is "cheating," as it misrepresents your smartphone camera's capabilities and produces an "unrealistic" image. I'm not sure why this would be a serious concern. Computational photography is imperfect, but it allows you to take high-quality photos using low-quality hardware. In many cases, this brings you closer to a "realistic" and "natural" image with a sense of depth and dynamic range.

The best example of this "cheating" is Samsung's "moon controversy." To advertise the Galaxy S22 Ultra's zoom capabilities, Samsung decided to create a lunar photography algorithm. Basically, it's an AI that makes crappy pictures of the moon look slightly less crappy by adding details that don't exist in the original image. It's a useless feature, but if you need to take a photo of the moon with a camera that's smaller than a penny, I'd reckon that some "cheating" is necessary.

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Some people are unhappy with computational photography. They argue that it misrepresents reality, and therefore, it must be bad! Cameras should give you the exact image that enters the camera's lens—anything else is a lie!

Here's the thing; every photograph contains some level of "fakery." It doesn't matter if the photo was shot on a phone, a DSLR camera, or a film camera.

Let's look at the film photography process. Camera film is coated with a photosensitive emulsion. When the camera shutter opens, this emulsion is exposed to light, leaving an invisible chemical trace of an image. The film is dunked through a series of chemicals to produce a permanent negative, which is projected on an emulsion-lined paper to create a printed image (well, the photo paper also needs a chemical wash, but that's the gist of it).

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Computer/Tech Information cont.

Every step in this process affects how an image looks. One brand of film may oversaturate reds and greens, while another brand may have a dull appearance. Darkroom chemicals may alter an image's color or white balance. And printing an image to photo paper introduces even more variables, which is why many film labs use a reference sheet (or a computer) to dial in color and exposure.

Most people who owned a film camera were not professional photographers. They had no control over the printing process, and they certainly didn't choose the chemical composition of their film. Doesn't that sound familiar? Film manufacturers and photo labs were the "computational photography" of their day.

But what about modern DSLR and mirrorless cameras? Well, I'm sorry to say, but all digital cameras perform some photo processing. They may adjust an image for lens distortion or reduce the noise in a photo. But the most common form of processing is actually file compression, which can totally alter the color and white balance of an image (a JPEG only contains a few million colors). Some cameras allow you to save RAW image files, which are minimally processed but tend to look "flat" or "dull" without professional editing.

All Photos Are "Fake," and It's Not a Big Deal

Reality is an important part of photography. Sometimes we want a photograph that accurately represents a moment in time, flaws and all. But more often than not, we ask our cameras to capture a good image, even in unfavorable circumstances—we ask for fakery.

This fakery requires technological advancements beyond the camera lens. And computational photography, despite its imperfections and marketing spin, is the technology we need right now.

That said, companies like Google, Apple, and Samsung need to be more transparent with their customers. We're constantly bombarded by advertisements that stretch the truth, leading many people to believe that smartphones are comparable to full-sized or professional-grade cameras. This simply isn't true, and until customers understand what's going on, they're going to keep getting mad about computational photography.

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Please register using the link on a calendar date or sign-up form on the website if you are planning to attend a class: www.cccgc.info

For more information

www.cccgc.info

Forms, Supplements, Membership, Classes, Bytes, etc.

The Charlotte County Computer Group Corporation

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