Essentials of Macro Photography

Presented by Mike's Camera

Joe Klocek, Instructor

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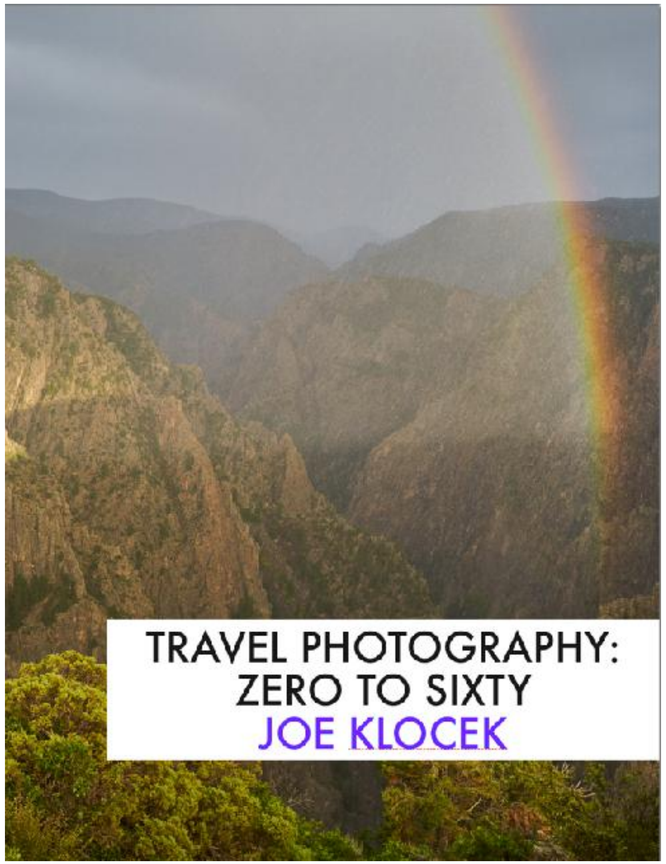
Three books on the iBooks store



Mike's Camera

Classes

- composition
- night photography: light painting
- night photography: downtown
- hawk quest
- botanic gardens
- videography
- product photography
- lighting 101: perfect people shots
- lighting 102: speed light workshops
- lighting 201: in the studio
- wild mustang sanctuary

Macro Ratio

Macro Ratio

The magnification

- The ratio between the size of an object and how large it appears on a sensor

Macro Ratio

Let’s explain...

Macro Ratio

The magnification

- The ratio between the size of an object and how large it appears on a sensor
- A 1:1 ratio means that an object appears “actual size” on the sensor when recording the image
- There is no symbol for macro, but there is a symbol for minimum focusing distance, the two are often confused

1:1 ratio does not convey distance information

Macro Ratio

The Magnification

- This means “minimum focusing distance”
- You will find this symbol next to a distance, such as .98 feet, but not next to a ratio
- It informs you as to the minimum focusing distance but not the magnification at that distance

Differences in Lenses

Lens Differences

What makes a difference?

- To achieve a 1:1 macro ratio, you must balance minimum focusing distance with focal length
- When shooting with longer focal lengths, your 1:1 ratio will happen at greater distances
- And yet, the magnification will still be the same

Lens Differences

What makes a difference?

- You will find macro lenses with focal lengths from 30mm to 150mm, and you choose them based on traditional criteria
- Great focal lengths blur more background but require faster shutter speeds
- Wider angles show more background, which is good for product photography

Lens Differences

What makes a difference?

- All 1:1 ratio lenses are primes, not only that, they are the least bright primes
- Some are full frame compliant and other are not
- Some lenses have stabilization
- Some lenses have better optical quality
- Some are aperture variable

That’s right, most macro lenses are aperture variable

Depth of Field

Four Factors

to depth of field

- Aperture
- Focal Length
- Focusing Distance
- Sensor Size (minimally)

Depth of Field

- Therefore, shooting at dimmer apertures does not dramatically alter your depth of field
- To control depth of field work at greater distances and with wider angles

f/2.8

f/2.8

f/8

Focusing

Focusing

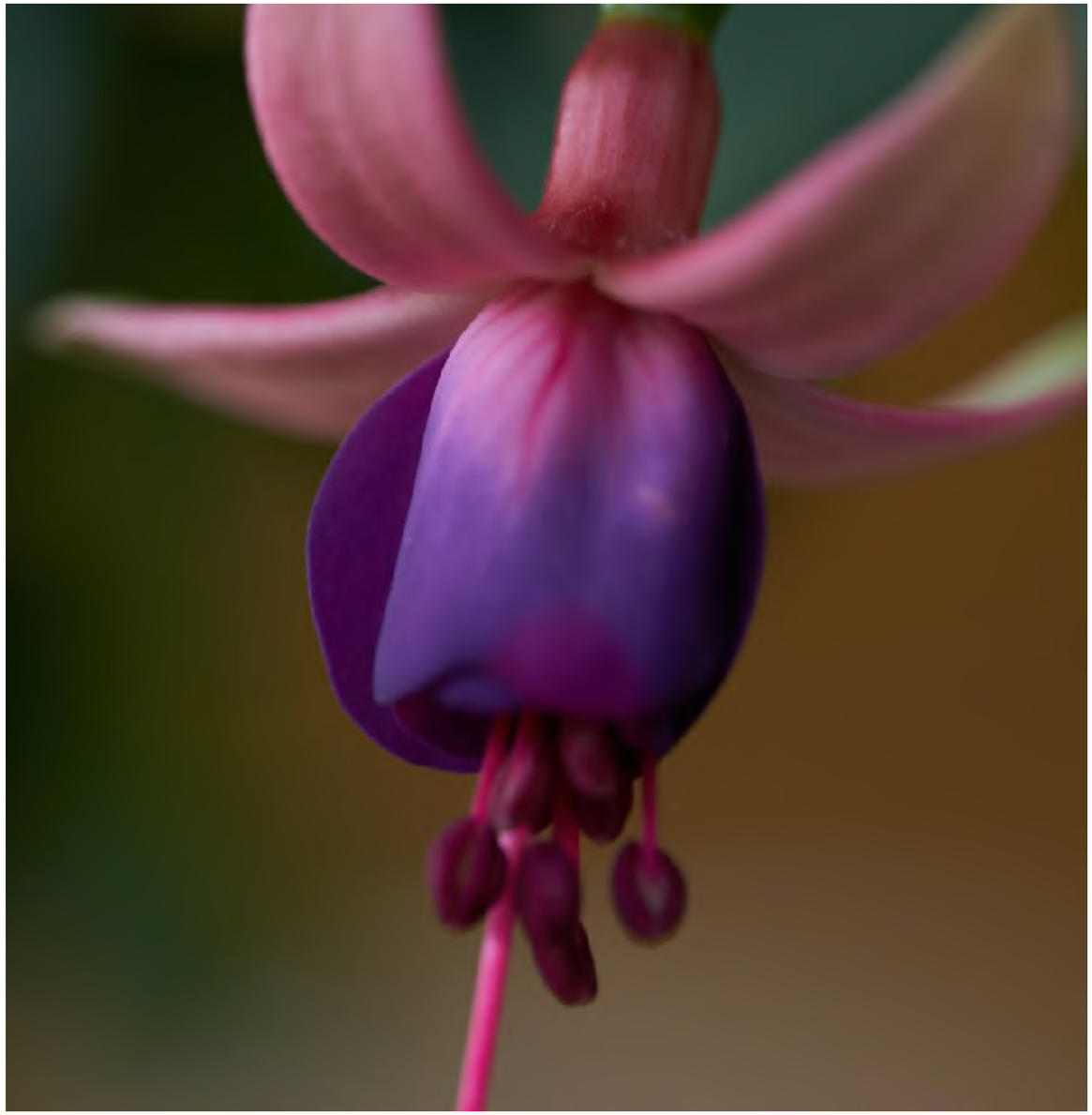
Close to the 1:1 ratio

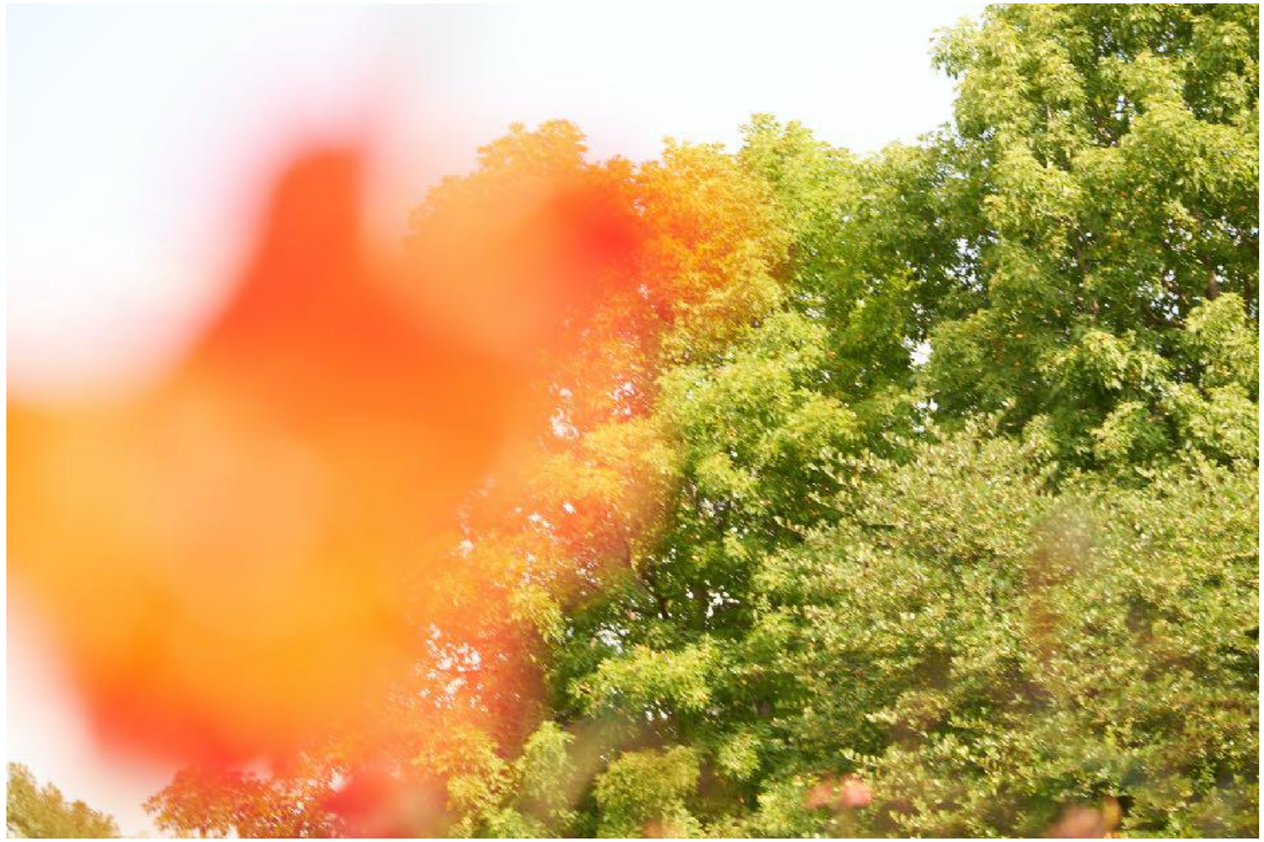
- Small movements of subjects create large changes in framing
- So shoot at faster shutter speeds, such as 1/200
- Also, use a tripod whenever possible
- The lack of significant depth of field will mean that you must be specific when focusing

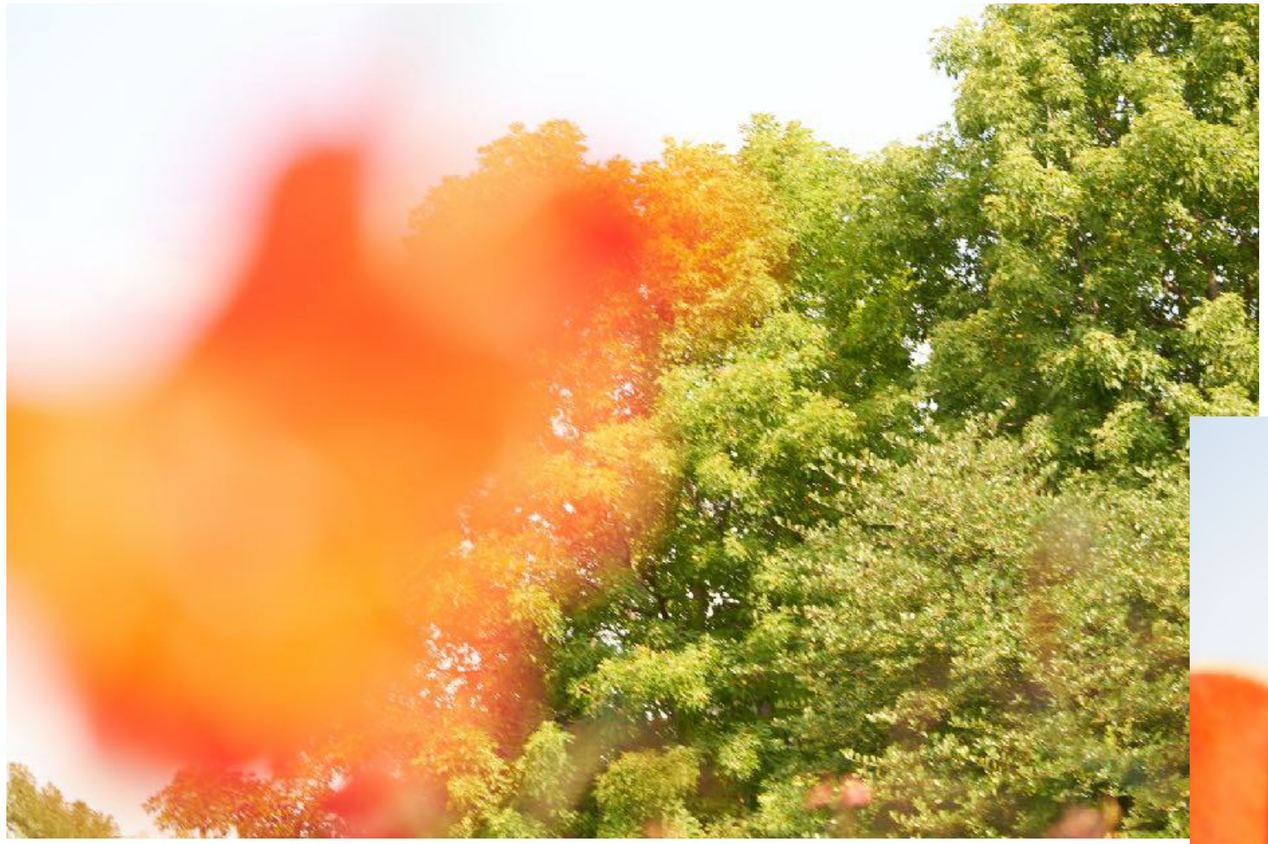
Focusing

Best practices

- If using manual focus, use focus peaking with sensitivity set low or manual focus assist
- In autofocus, use single crosshair AF-S with crosshair sized as small as possible
- Frame the shot early due to focus breathing





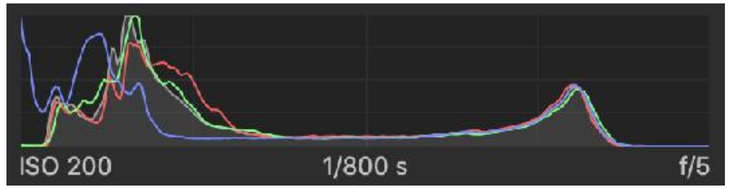


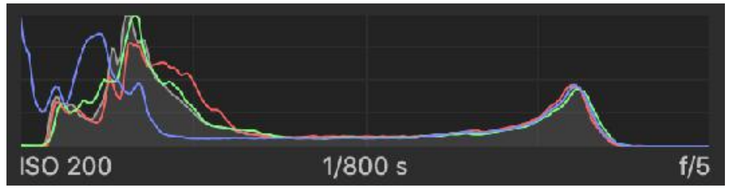
Exposure

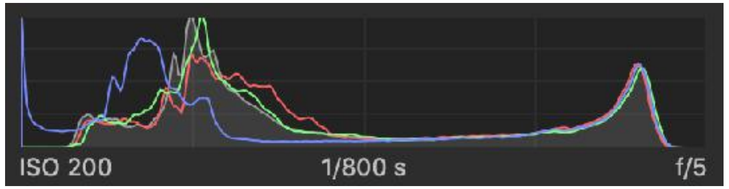
Exposure

Best practices

- With anything that can move, or that the wind could move, use faster shutter speeds, such as 1/200
- Use aperture to control exposure, not depth of field
- Double check exposure when as work, adjust as necessary
- Shoot in RAW and underexposure to capture highlights and color







Flash

Flash

With macro images

- The same effect can be achieved with no flash if you have a subject lit by the sun, but a significantly darker background
- Otherwise, trigger a flash off camera, hold it above the subject and tilted slight back towards the camera
- Or, if the sun sits behind the subject, use the flash to light the subject without over-exposing the sky or the background

Stacking

Stacking

How to achieve long DoF

- Shoot a series of images on a tripod in manual focus, changing to focus distance minimally in each frame
- Give extra space on the side of your image to crop due to focus breathing
- Demarcate the beginning and end of a series by blocking park of the frame

Stacking

How to achieve long DoF

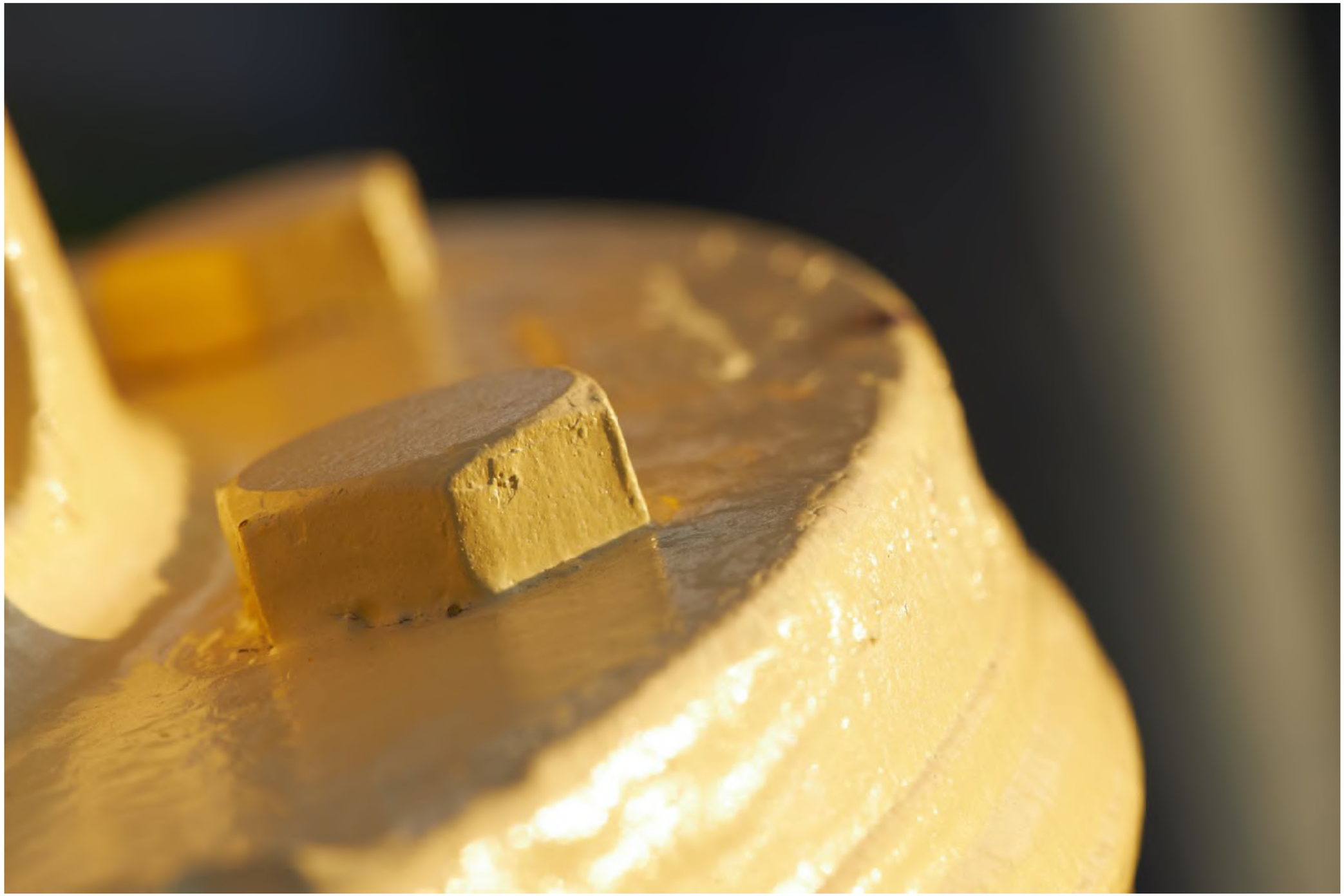
- Some cameras have an auto focus stack feature built in
- Use software to merge the images
- Helicon Focus is a software built for this purpose, but Affinity Photo and Photoshop can also accomplish the task

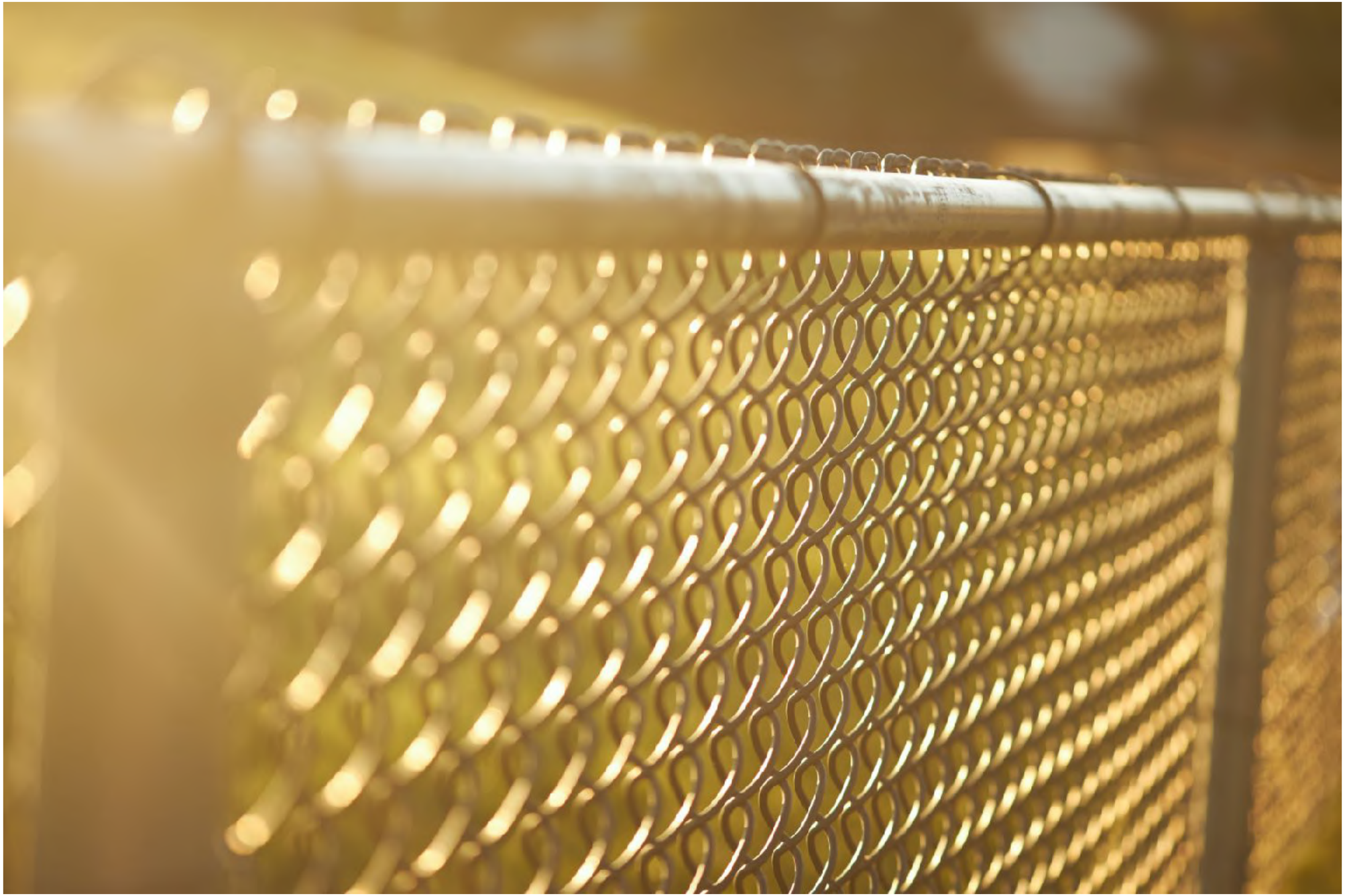
Stacking

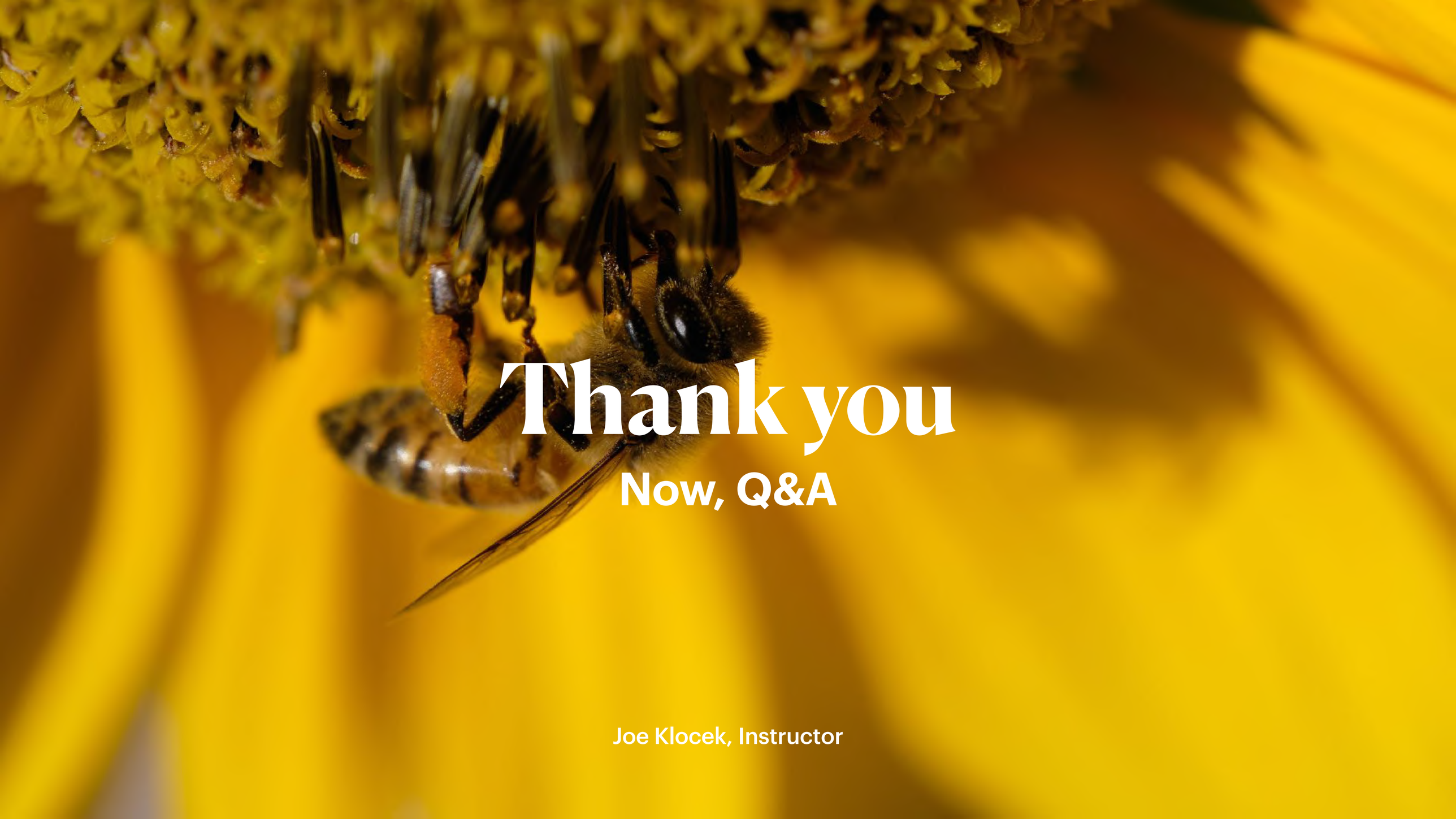
In Photoshop

- Open the images in photoshop
- Under FILE go to AUTOMATE and select PHOTOMERGE
- Do not check BLEND IMAGES TOGETHER
- AUTO BLEND IMAGES
- Select the STACK IMAGE and make sure it tone mapped properly

Projects at home







Thank you

Now, Q&A

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