Astrophotography

Exhibit by Sumeet Kulkarni
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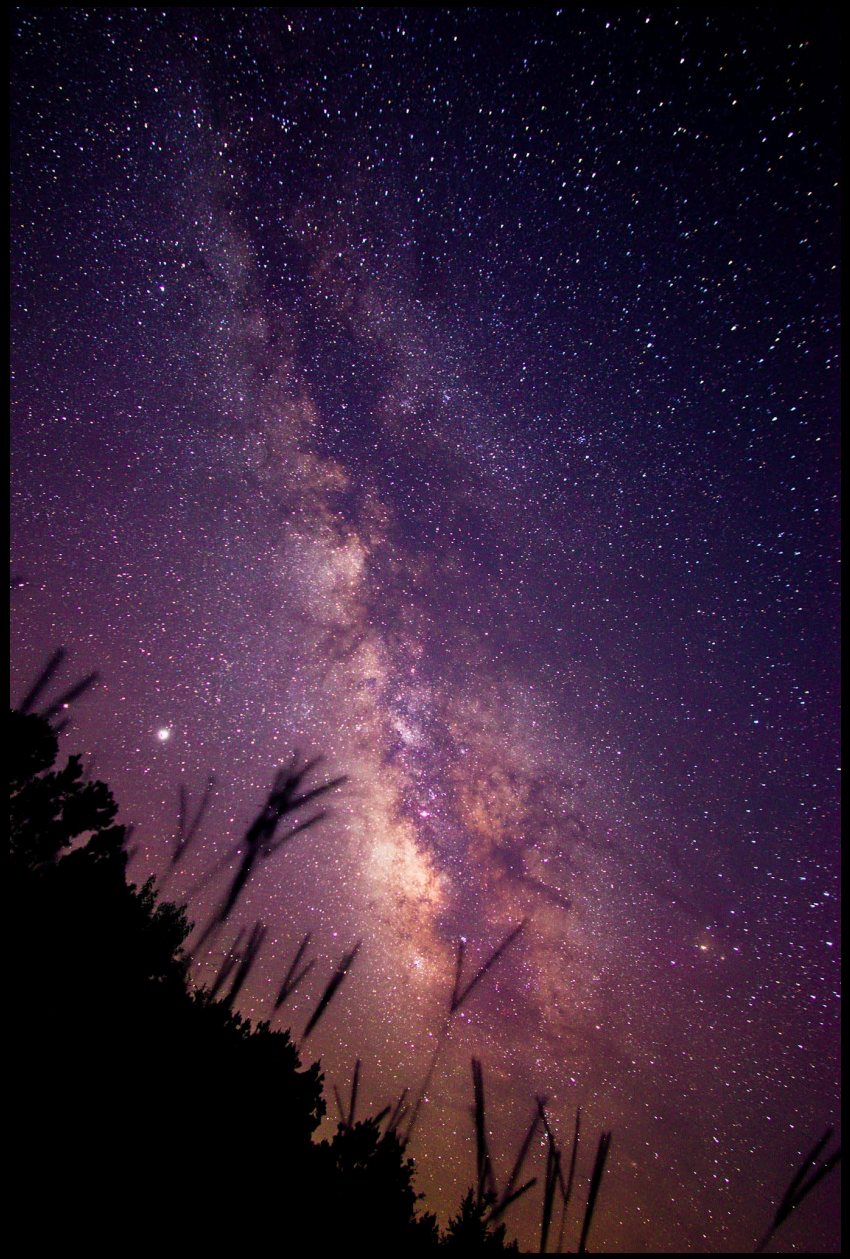


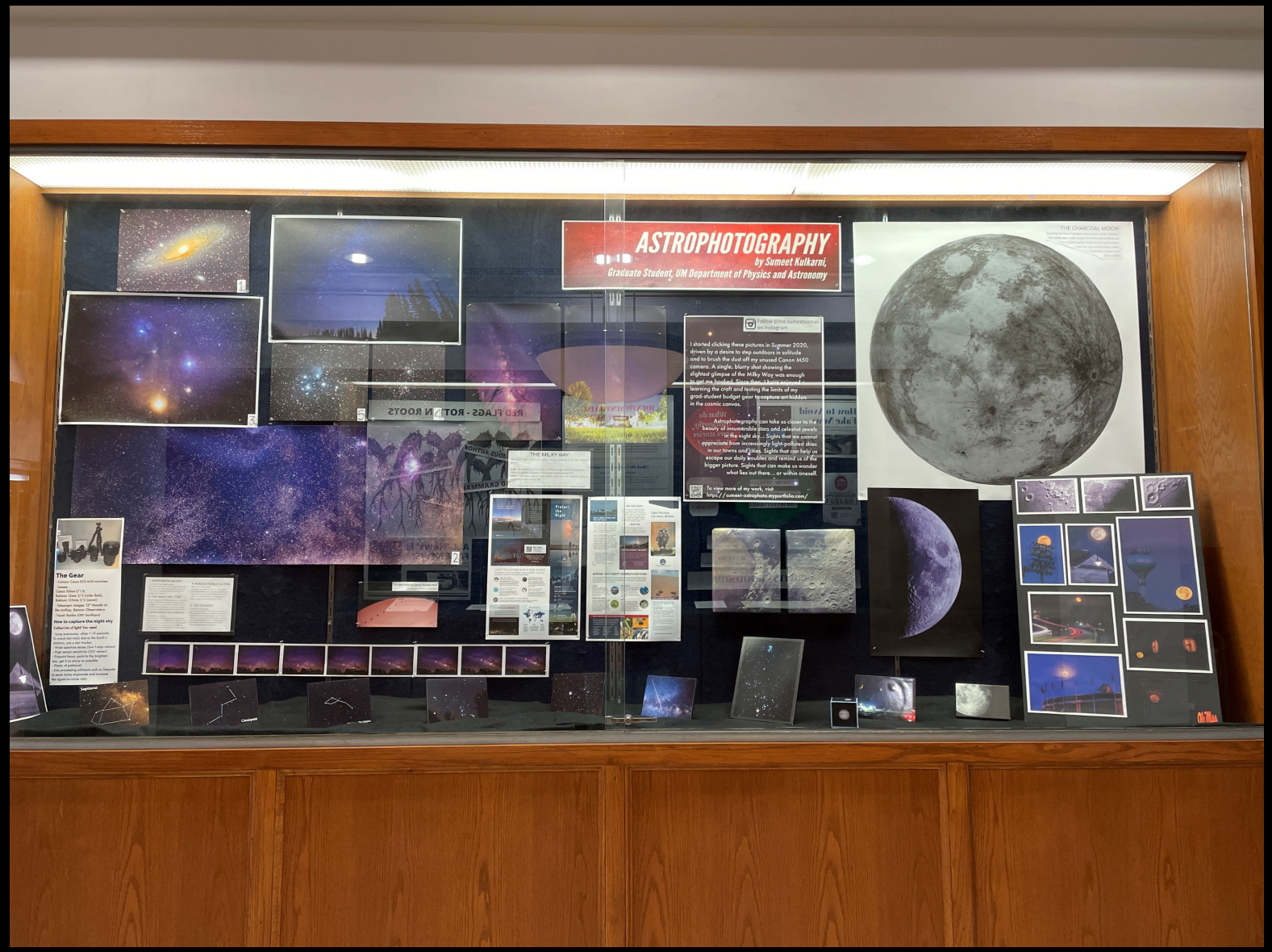
Photos by Sumeet Kulkarni

Artist's Statement

I started clicking these pictures in Summer 2020, driven by a desire to step outdoors in solitude and to brush the dust off my unused Canon M50 camera. A single, blurry shot showing the slightest glimpse of the Milky Way was enough to get me hooked. Since then, I have enjoyed learning the craft and testing the limits of my grad-student budget gear to capture art hidden in the cosmic canvas.

Astrophotography can take us closer to the beauty of innumerable stars and celestial jewels in the night sky... Sights that we cannot appreciate from increasingly light-polluted skies in our towns and cities. Sights that can help us escape our daily troubles and remind us of the bigger picture. Sights that can make us wonder what lies out there... or within oneself.

To view more of my work, visit
https://sumeet-astrophoto.myportfolio.com/



Click link to Sumeet Kulkarni's Astrophotography Website

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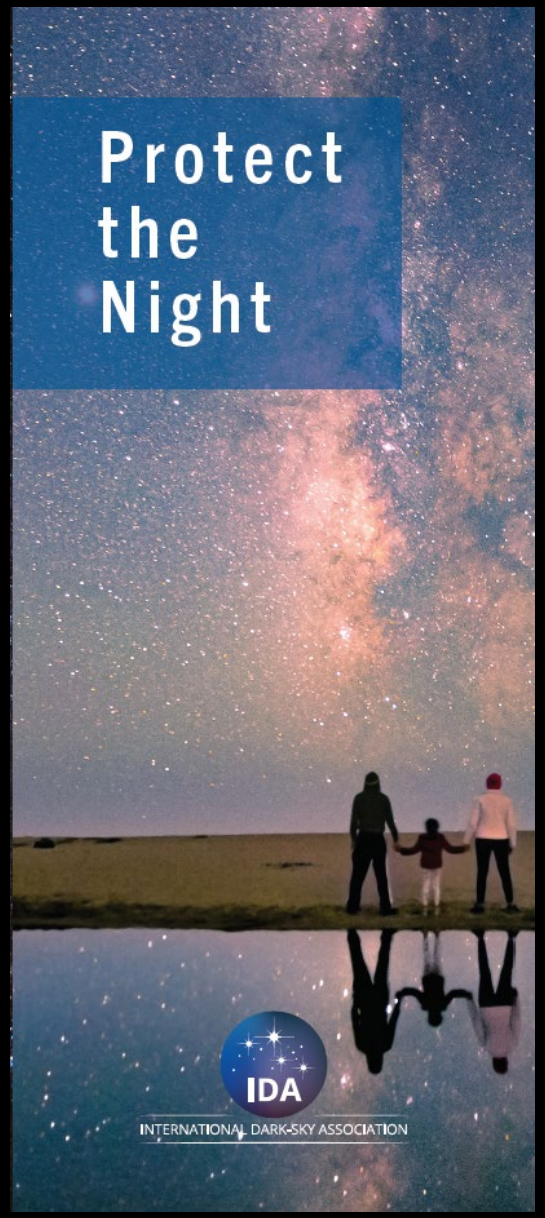
The Gear

- Camera: Canon EOS M50 mirrorless
- Lenses:
Canon 50mm f/1.8,
Rokinon 12mm f/2 (wide-field),
Rokinon 135mm f/2 (zoom)
- Telescopic images: 12" Meade on the rooftop, Kennon Observatory
- Tripod: flexible JOBY Gorillapod

How to capture the night sky

Collect lots of light! You need

- Long exposures, often > 10 seconds. To avoid star trails due to the Earth's rotation, use a star tracker.
- Wide aperture lenses (low f-stop values)
- High sensor sensitivity (ISO values)
- Pinpoint focus: point to the brightest star, get it as sharp as possible
- Plenty of patience!
- Use processing software such as Sequator to stack many exposures and increase the signal-to-noise ratio

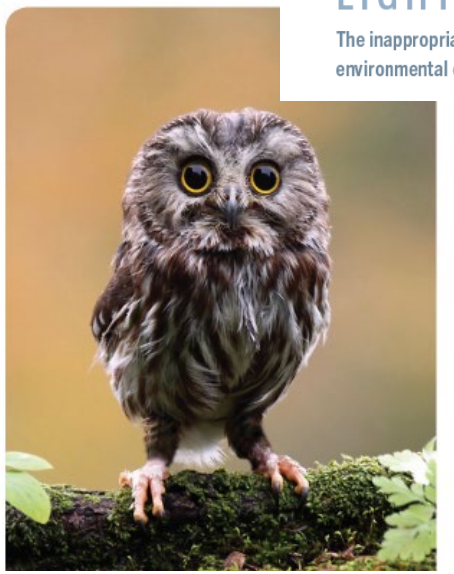


Link to materials from the International Dark-Sky Association

Light Pollution Can Harm Wildlife

LIGHT POLLUTION HURTS OUR PLANET

The inappropriate or excessive use of artificial light — known as light pollution — can have serious environmental consequences for humans, wildlife, and our climate.



ARTIFICIAL LIGHTS DISRUPT THE WORLD'S ECOSYSTEMS

Plants and animals depend on Earth's daily cycle of light and dark to govern life-sustaining behaviors such as reproduction, nourishment, sleep and protection from predators. Scientific evidence suggests that artificial light at night has negative and deadly effects on many creatures, including amphibians, birds, mammals, invertebrates, and plants.

Photo by Sumeet Kulkarni

1. ANDROMEDA GALAXY

2.5 million light years away

Our neighboring galaxy: the furthest object visible to the naked eye, and the oldest light collected by my camera. This is how the Andromeda Galaxy looked like at the beginning of the Stone Age.

Photo by Sumeet Kulkarni

2. THE MILKY WAY CORE

A densely populated star field in the direction towards the core of our galaxy, with two jewels, the Lagoon nebula (top right) and the bi-colored Trifid nebula to its left. One can observe numerous open star clusters, white regions full of stars, and darker areas of interstellar gas and dust.

Photo by Sumeet Kulkarni

3. RHO OPHIUCHI COMPLEX

450 light years away

The fascinating starfield around the super-red giant star Antares, (Scorpio's eye). To its right is M4, a globular cluster. The dark voids on the left and above are gas clouds which absorb light and prevent us from seeing stars behind it. The gas clouds form a cradle of new star formation.

Photo by Sumeet Kulkarni

4. PERSEUS DOUBLE CLUSTER

7500 light years away

The stars in this cluster are very far, in an adjacent arm of our spiral Milky Way. All the stars in the background are from our own arm. The fact that the distant stars in the double cluster look quite like stars much closer to us implies that they are *Supergiant* stars, up to a thousand times bigger than the Sun!

Photo by Sumeet Kulkarni

5. THE PLEIADES

450 light years away

Also known as *The Seven Sisters*, *Subaru* (Japanese), and *Kritika* (Hindi), the Pleiades is the largest and most easily identifiable star cluster in the Northern skies. Seven hot and luminous stars are visible to the naked eye, while the cluster includes over 800 stars. The nebulosity around the seven sisters is likely a dust cloud in the interstellar medium through which they are passing.

THE MILKY WAY

The wispy white band of our galaxy crosses overhead in the late Summer months.

(Left): The bright core of our galaxy, interspersed with interstellar dust clouds is seen here from the University of Mississippi Astronomy Dark Site.

(Right): The same view as seen looking away from the relatively dimly-lit neighboring town of Taylor, MS.

Photos by Sumeet Kulkarni

The Full Moon sets behind the Oxford, MS water tower.

Photo by Sumeet Kulkarni

Photo by Sumeet Kulkarni

THE MILKY WAY FLOWS INTO A CANYON

The Milky Way seen from the dark skies of Cedar Breaks National Monument, Utah, a designated International Dark Sky Park.

Photo by Sumeet Kulkarni

THE CHARCOAL MOON

Inverting the Moon highlights some great surface features, like **crater rays**: radial streaks formed by ejecta flying out from a crater impact. Featured most prominently here are ones around large craters: Copernicus (center) and Tycho (right)

Instagram

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