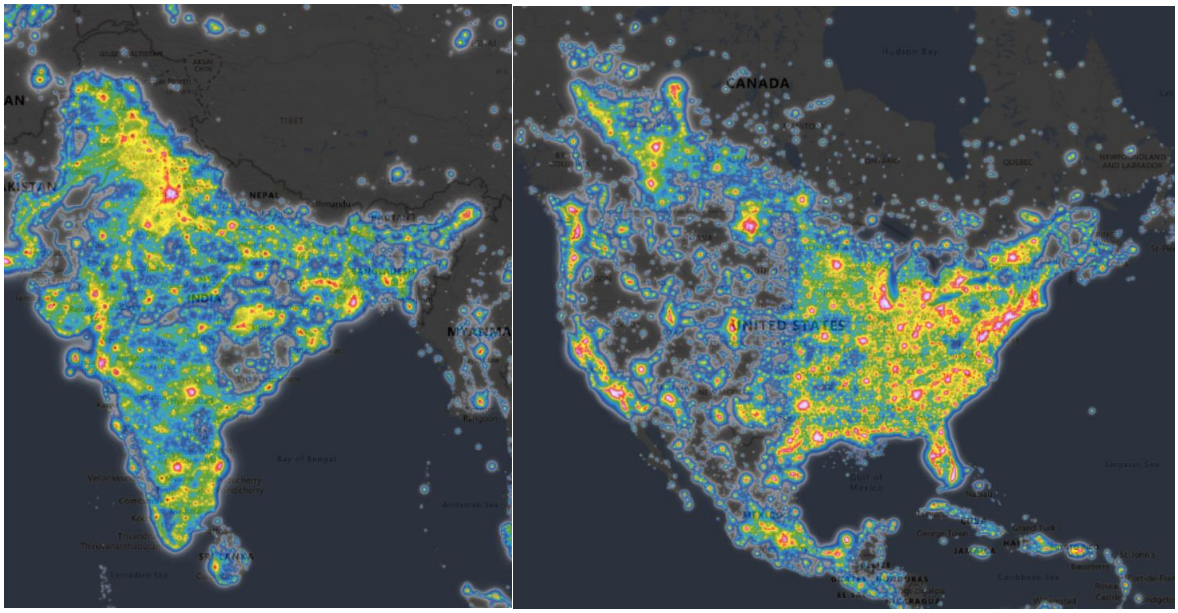
ART OF SEEING THE DARK

By Nihal S Amin (PGP 2021)

It was a pleasant September night. I was returning to my apartment from work and as usual, I looked up at the sky while I was about to open the gates. The sky was exceptionally clear. I jolted to the roof and rested my backpack on the parapet. I laid beside it taking in the full view of what's above. The sky was star-studded and the core of the Milkyway was right overhead. This was only the 6th time I had seen the Milkyway. But unlike the first 5 times, this one was seen right within metropolitan Bangalore. For years, I was led to believe that light pollution had muted the stars in the city night sky. But I couldn't be more wrong, a few years later in the lockdowns, people successfully saw and photographed the Milkyway from Bangalore, Mumbai, and Chennai. A multitude of atmospheric factors had worked in tandem to make it happen.



Source: Light pollution maps of India & USA (lightpollutionmaps.info). Only the brown areas that have a dry atmosphere are suitable for Astronomy and Astrophotography. India has very few of them.

My obsession with seeing in the dark began about 7 years ago when I first found out that I can photograph the night sky with a simple DSLR camera. There was a fairly new concept back then among amateurs known as long exposure. Here you keep the camera sensor open for an extended period, say 30 seconds which allowed a lot of dim light to enter the sensor. This fascinated me, as I realized, I can essentially **photograph the dark**. This pulled me into the rabbit hole of amateur astrophotography where hobbyists from across the globe created Hubble-like images using their backyard telescopes and DSLRs. In India, there were closed groups of amateur astronomers who would travel to Hanle and other remote places in the Himalayan foothills with heavy telescopes and mounts. They would set up camp for several nights in a row capturing hours and hours of ancient photons from deep-sky objects. However, their media shyness didn't do any favors for awareness about the possibilities of Astrophotography in India for years to come. It was only in the latter half of the 2010s did people realize it was possible to see and photograph deep-sky objects from any part of India. I was one of those people.

Solar Eclipse at IIM Ahmedabad

When the lockdowns were announced, my Astro-travel plans were scrapped. I had a few weeks to spend before my internship began and I thought it would be a perfect opportunity to apply some of the management skills that I had learned in the 3 Terms. I built a virtual community, a platform for budding hobbyists from all over India who were just discovering the art of shooting the stars after being chained to their homes. I created forums for astrophotography learning and critique, discussions, and fun. The community is growing and now has about 10K people across multiple social media platforms.

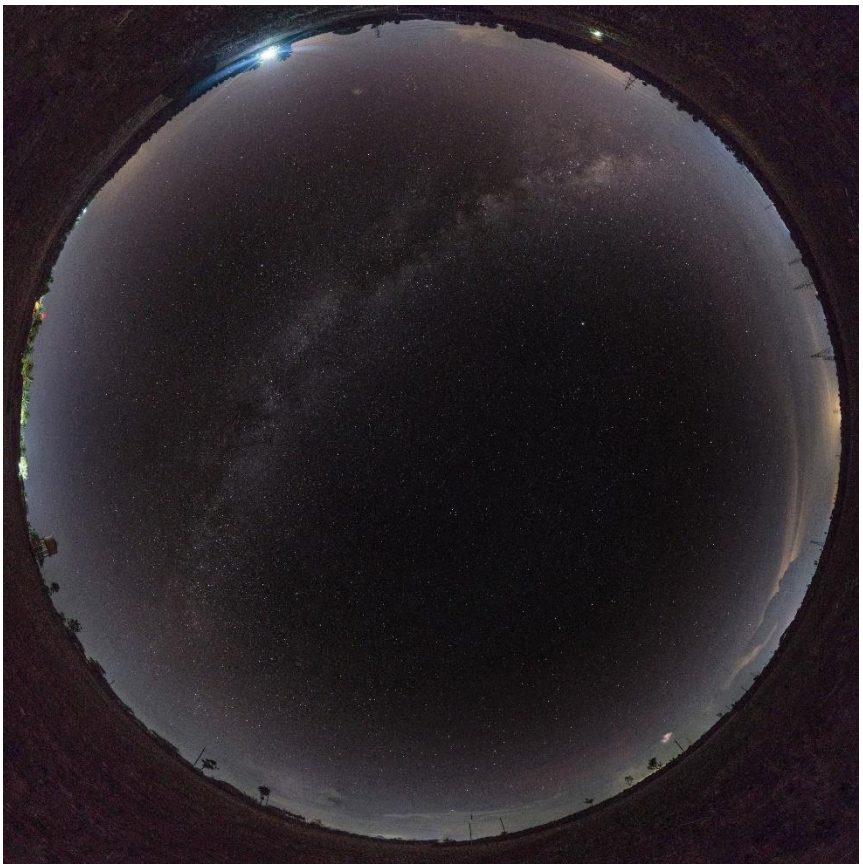
After graduating from IIMA, I purchased a camera that had ultra-low light sensitivity. That meant instead of taking long-exposure photographs to see in the dark, I could actually **see in the dark in real-time**. This opened up a realm of possibilities for me, the most recent one being the eerie Starlink train of satellites traveling in the sky against a background of stars. The capabilities of this camera gave rise to two long-term photography projects that I now have on my plate. The first one is an ambitious fine-art project which follows the adventures of an (other-worldly) astronaut lost on our planet; the series is titled "Abandoned on Earth". The second project is much more challenging. We know that space doesn't contain an absolute vacuum. When we see a distant galaxy through a telescope that is millions of light-years away, the light from that galaxy travels through different mediums and matter and ultimately falls on the retina. Among these mediums is something called galactic cirrus, which are high-altitude particulate dust clouds above and below the plane of the Milkyway galaxy. These were first observed in the 1980s and photographed digitally less than 20 years ago. They span the entire night sky with varying densities and are extremely faint. These beautiful wispy mauve-colored filaments are more commonly known as The Integrated Flux Nebula which glows from the combined starlight of all the stars in the Milkyway galaxy. As of today, less than 1% of these nebulae have been documented digitally. I plan to document them from India. Perhaps then can I say for certain that I have actually **seen the dark**.

Follow Nihal's art of seeing the dark and India's largest Astrophotography community on Instagram.

Milkyway

Starwars

Comet NEOWISE



360 degree sky