

Looking at the World Through Infrared Glasses



All photos © 1999 Eric Cheng

eric cheng

by michael eagleson

"Vision is the art of seeing things invisible."
—Jonathan Swift

If vision is in fact the art of seeing the invisible, as the brilliant Irish essayist wrote, then clearly Eric Cheng is a visionary. And he makes it his work to show everyone else the invisible, by creating digital images with infrared light.

The light visible to the human eye ranges in wavelength from

about 400 to 700 nanometers (nm). Because infrared light ranges from 700 to 1,000 nm, it is invisible to us; but it can be captured on film. It can also be captured by a CCD—with the right filter.

When Eric Cheng saw infrared photography for the first time, he fell in love with the darkened skies and the whites of the green

vegetation. "I had read about tombstones floating above the grass when captured with infrared photography. I wanted to see this for myself, so I began to experiment."

Cheng has been a photographer since childhood. Though he excelled at mathematics, the precocious scholar literally couldn't



stay still. One of the many outlets for his restless energy was to "compulsively" take snapshots. His bookshelves hold more than 100 photo albums, arranged in chronological order—a convention

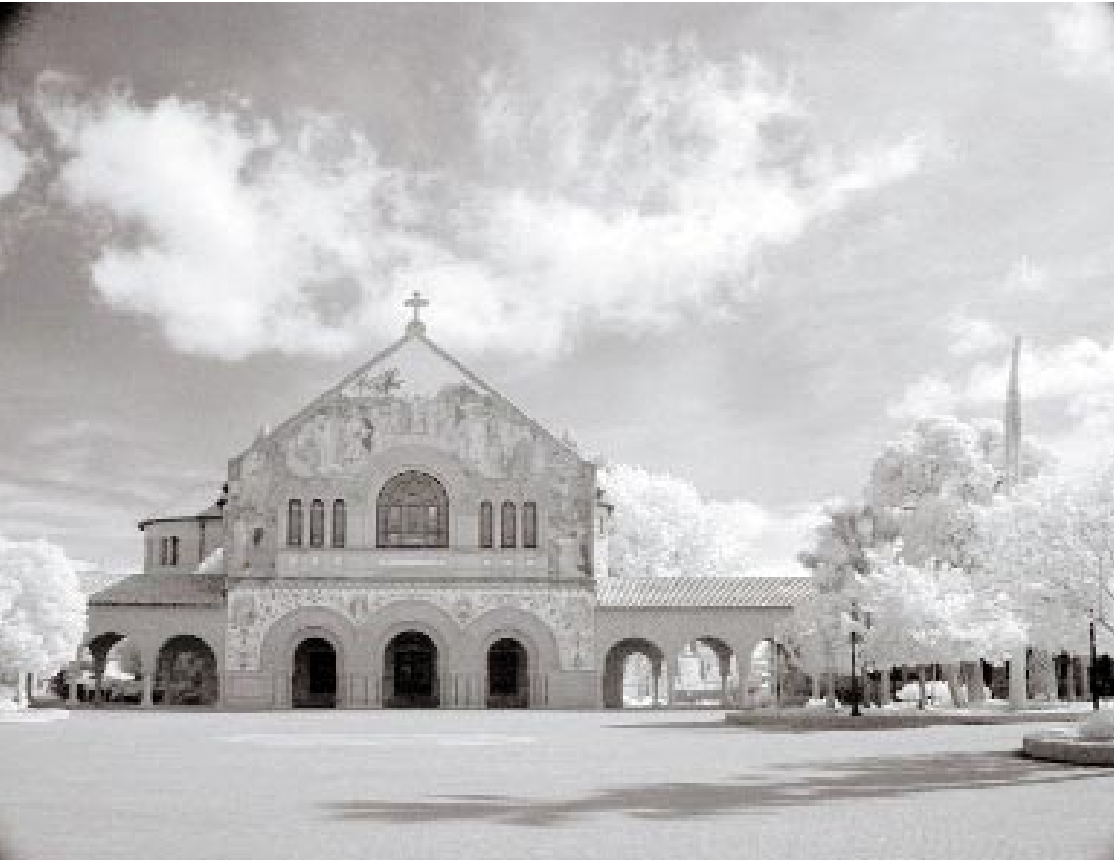
out the kinds of filters he would need to digitally photograph the infrared spectrum. Unable to find the lenses locally, he placed an order with B&H Photo-Video, in New York. "One of the biggest reasons I

blocked out part of the infrared spectrum he was trying to capture. Cheng then switched to the Kodak #87 filter he uses now, which begins letting in light at a wavelength of about 740nm. In combination with

the Coolpix 950, the lens produces exactly the look Cheng desires.

Cheng's photography isn't what most people think of when they think of infrared. Because it captures the lower ranges of infrared light, it is termed "near infrared." "Contrary to popular belief, near infrared photography does not allow the recording of thermal radiation [heat]," he explained. "Far-infrared thermal imaging requires more specialized equipment."

It's the exotic, antique look of near infrared imaging that appeals to Cheng. "Plant life looks completely white because it reflects almost all infrared light. The sky is a stark



he picked up from his parents.

His first experience with digital photography came as an undergraduate at Stanford University in California, where eventually he earned a master's degree. A computer science major, Cheng took a digital photography course as an elective. He was disappointed in the low-end cameras the university chose; picture quality suffered because of the high compression the cameras applied to each image. As a result, Cheng purchased himself an Agfa ePhoto 1280, and set out with his vision before him.

Through his research on the World Wide Web, Cheng figured

started out with the Agfa ePhoto camera is that the front of the lens is threaded," he said. "So I ordered a 46-52mm step-up ring with a filter holder attached. The Nikon Coolpix 950 I now use is the same way."

Cheng bought the Coolpix 950 when he decided to further pursue his art. He wanted higher resolution and greater sensitivity, without losing the ability to attach the infrared lenses. The first filter he bought was a Kodak Wratten #87C, but he was not completely satisfied with it. The images he captured were really dark, largely because the camera wasn't sensitive enough, but also because the filter

black because no infrared light is scattered. Human skin looks pale and ghostly." Some of Cheng's first infrared images were of himself and his friends. "I have a photograph of a friend in a black shirt that in infrared looks white. My dark sunglasses all but disappear because they don't block any infrared light. It's said that you can capture the near infrared emissions of a common iron," something Cheng would like to see in an upcoming project.

During the day, you will find the digital photographer somewhere in the back of the main building at Epiphany, "a little software

company founded in '97, specializing in enterprise-based applications." Programming all day, he says, generates the urge to create—and so does his musical talent.

As a youngster, Cheng learned to play the piano. Taking up the cello later, he continued to play in college, and still performs with a string quartet and the Stanford Symphony Orchestra. For Cheng, music is the "defining force" in life. "One of my biggest fears is that I will lose music as I adjust to 'real life.' This fear only grows as I watch the musicians I play with leave one by one for conservatories."

Cheng says music keeps him sane. He forces himself to leave his job every day for rehearsal. One of his long-term goals is to play all six of Johann Sebastian Bach's "Suites for Unaccompanied Cello."

He has set himself more goals



for the future, like taking up underwater photography, obtaining a pilot's license, and becoming versed in traditional darkroom

techniques. "Included in this is the desire to continue to photograph the things that don't normally show up in photography."



Almost daily, Cheng receives e-mail about his near infrared technique. "Apparently, there aren't many resources available on digital infrared photography. I think lots of people would like to do this, but with the less expensive equipment available in the consumer and desktop publishing markets." ◀

If you would like to know more about Cheng's technique, contact him at eric@echeng.com, or visit his Web site: www.echeng.com/digital_photo/infrared.html.

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