How Estella Tse Uses VR Art to Help the Earth and #StopAsianHate

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Estella Tse is a big deal in the VR art world, standing at the intersection of augmented and virtual reality tech with traditional studio culture. The creative director and artist-in-residence for tech giants like Google and Snapchat has traveled the world doing live VR demonstrations like re-creating Gustav Klimt's The Kiss, Rembrandt's Night Watch and other major works of art.

But lately she's immersed in a different reality: nature. Tse is studying how nature and tech can merge to help the environment.

To fully engage herself, Tse took a seasonal job at a Portland Nursery. Her Instagram often showcases images from her new side gig—watery colored hellebore flowers, or a quickly colored guide to the difference between a perennial and an annual. But nature is also taking center stage in her professional work.

She's part of a group of visionary artists, such as hip-hop artist **Xiuhtezcatl Martinez**, using the arts to stir emotion and catalyze action in addressing climate change. Her **VR art piece "Regrowth"** appeared in the April edition of Bear Magazine, which looks at environmental issues through creative arts. With an app, users can hover a smartphone over the magazine and see a virtual illustration of trees coming to life. Tse created it shortly after wildfires on the West Coast burned millions of acres of plant and wildlife last year, while she was healing simultaneously from the death of a best friend and the end of a traumatic relationship. The piece brought all these events together for her.

"This isn't the end," I'd repeat to myself," she wrote in an Instagram post about the work. "...

No matter what may come our way, we each have an inner warrior that will fight for better days. Nurture that seed."

A seed from Hong Kong raised in Oakland

Raised in Oakland, Tse grew up in an immigrant family from Hong Kong. She was the first generation born in America and the first generation in her family to attend college.

In middle school, Tse was building websites for fun. It was 1996, and although the Internet had yet to fully explode, Tse was learning how to code. After graduating with a sociology degree from UCLA in 2006, she worked for the nonprofit Gay Straight Alliance Network for a few years. But a love for tech was still running through her veins. She got back into web design, and after working there a few years she had another epiphany: She'd never given art a fighting chance.

"It was intimidating and scary," Tse says about applying to art school. "Also, being first generation American-born, I had a certain familial duty to do something more certain, sustainable and predictable. After I proved to myself that I could work successfully in tech, I wanted to pursue my interest in art—for myself."

In 2012 she went back to school at the Art Center College of Design for Illustration, and later questioned: How could she merge tech and art together

Virtual reality was the answer. After her first experience using VR with **Google Spotlight Stories**—a creative visual studio for virtual reality storytellers—Tse realized it was going to be "life-changing."

Bringing VR art to the world

Around that time, Tse tried a program called Tilt Brush, a 3D-painting VR Google application, at a convention. She drew a dragon.

"That's where it kind of clicked for me," Tse says. "I can sculpt worlds. I can literally make worlds this way."

Tse was one of the first artists to use Tilt Brush to make beautiful art, says **Sarah Stumbo**, who is familiar with Tse's work as a colleague in the field. Stumbo is an interactive software engineer at Madison Square Garden Entertainment Corporation. Tse's work has made an impact on software engineers and developers working on making tools like Google Tilt Brush and Adobe Aero, Stumbo says. Tse has also inspired the creation of **Google Blocks** and the Cartoon Network's VR Lab.

"Not only is she driving the art world forward with her innovative artwork, but she's also driving technology products forward," Stumbo says.

David Liu was the director of VR under Viacom when he noticed Tse's talent using Tilt Brush.

Tse is an extremely brilliant artist and illustrator, Liu says, noting her ability to create landscapes and spaces with emotions in a way that not many artists have in VR. "There was no one really setting any real bounds of what you can do in the VR art space," Liu says. "A lot of folks who came after that have often looked to her work as inspiration."

And now, a new reality

Tse applied for the nursery job on the nursery's website, initially scared because it was so different from the work she had done before. But she wanted to work with nature and be integrated in the community. Recently a customer asked Tse what the difference was between a perennial and annual. Tse didn't know the answer, so she made that infographic-style illustration in her sketchbook to learn her way through it—just as she's learning to explain her vision for how art and technology can somehow preserve nature.

Tse hopes that by being able to speak to companies, she can craft a vision of what she wants the future to look like, and it can actually come to fruition.

"I'm in a place of absorbing as much information as possible about what nature needs, how it thrives, how it works with humans," Tse says.

She's also part of a growing number of her peers looking at ways technology can be used help sustain life in nature and counter the damage. Her friend Suzanne Leibrick is working with a group using depth cameras to target sonic waves at plants to shake pollen for fertilization. Others are using tech to rebuild coral reefs.

"A lot of my work is connecting, bridging, being a conduit of information and ideas," Tse says. "I may not be actively making a product that merges tech and nature right now, but

the cultivation of thought, education and understanding of both industries' needs—this is just the beginning of the work I do."

"You can use technology in a way that works with nature," she says. "It doesn't always have to go against it.

#StopAsianHate

But reality still pushes against the worlds Tse tries to create, and she pushes back with art. Recently another cause tapped that inner warrior: #StopAsianHate.

"For me, that has always been the most important work that I do," Tse says. "Using my voice to help humanity in some way or form."

With the rise of anti-Asian violence and hate crimes in the United States, Tse has seen other Asian Americans and allies increasingly share resources on supporting the community.

When she finds social media discussion over how to fight anti-Asian hate crimes, it is "the most seen that I've felt as an Asian American," Tse says.

This is a political challenge she has been fighting nearly all her life, she says.

Some of Tse's current VR art on social media features a protest sign she made: "I am not your model minority."

Tse thinks this has resonated with her audience because they can see it affects her too. Some people think Tse is immune to anti-Asian hate crimes because she doesn't have an accent, has bleached white hair, and is highly educated in and out of the tech world. But she's not.

Tech is a powerful way to share all of these realities—virtual and otherwise.

"I really needed to use my voice," Tse says about her recent #StopAsianHate and environmental work. "There's an opportunity to tell positive, connection-driven stories with VR art to speak to people's hearts."

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