bitforms gallery

Refik Anadol, *Quantum*
June 18–July 31, 2021
Opening Reception: 5–8 PM Friday, June 18, 2021
Gallery Hours: Tuesday–Saturday, 11 AM–6 PM

bitforms is proud to present *Quantum*, Refik Anadol's first solo exhibition with the gallery. This exhibition introduces a suite of new works that combine the strategies of Google's Artificial Intelligence Quantum Advantage experiments, machine learning, and the aesthetics of probability. Works on display utilize research data and algorithms to explore the possibilities of parallel worlds, generating a stunning panorama of speculative realities. The works stem from *Quantum Memories* (2020), the first large-scale artwork to utilize quantum computing. Commissioned by the National Gallery of Victoria in Melbourne, Australia, *Quantum Memories* debuted at the NGV's Triennial in November 2020.

Quantum Memories: Nature Studies emerges from an intersection of artificial intelligence (AI) and collective dreaming. With the assistance of the Google AI Quantum team, Anadol was granted access to one of the world's foremost quantum computing research projects. This allowed him to merge research and AI to speculate an alternative reality through the lens of nature. *Quantum Memories: Nature Studies* began with over 200 million publicly available images, establishing the largest dataset of nature photography ever gathered for an artwork. This vast photographic archive was then used to train a generative adversarial network (GAN) algorithm. Each scenic variation incites a unique interpretation, forming a multifaceted reflection of the nuanced relationship between technology, humanity, and culture.

Technological advancements of the past century have strived towards humanity's yearning for impossible places—including parts within and beyond the mind. *Quantum Memories: Probability* incorporates pigments, shapes, and patterns that are associated with a sensory, human experience. However, these images only exist within the mind of a machine hypothesizing these intangible arenas. The work uses the same technique as *Nature Studies* to combine a generative algorithm with a form of computing that exercises the unusual physics of the subatomic world. Anadol encourages the potential of quantum computing towards an application in aesthetics, where data is processed by machine learning to offer visuals of shared digital memory.

The term "quantum" acts as both a procedure and an inspiration for Anadol to connect data sets with artistic exploration. For example in physics, quantum noise references uncertainties that arise from random fluctuations in a system. *Quantum Memories: Noise* taps into these occurrences as a unique realm of prediction. The artist employs AI and algorithms to create noise-generated datasets that act as building blocks for a series of visual modalities. The piece is both motivated by, and a speculation of, the many-worlds interpretation in quantum mechanics—a theory that many parallel worlds exist in the same space and time as our own. Through all pieces in the exhibition, Refik Anadol's *Quantum* considers a radical visualization of an alternate dimension of the natural world.

b. 1985, Istanbul, Turkey
Lives and works in Los Angeles, CA

Refik Anadol is a media artist, director and pioneer in the aesthetics of data and machine intelligence. His body of work locates creativity at the intersection of humans and machines. In taking the data that flows around us as the primary material and the neural network of a computerized mind as a collaborator, Anadol paints with a thinking brush, offering us radical visualizations of our digitized memories and expanding the possibilities of architecture, narrative, and the body in motion. Anadol's site-specific AI data sculptures, live audio/visual performances, and immersive installations take many forms, while encouraging us to rethink our engagement with the physical world, its temporal and spatial dimensions, and the creative potential of machines.

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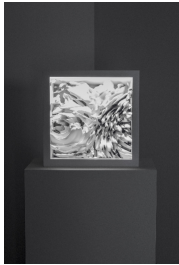
Refik Anadol
Quantum Memories: Noise , 2020
Video (black and white, silent), computer, screen,
custom frame
22 x 21.75 x 5.5 in / 55.9 x 55.2 x 14 cm, framed
16 min, loop
Edition of 5, 2 AP

Refik Anadol
Quantum Memories: Probability, 2021
Video (color, sound)
16 min, loop
Edition of 3, 2 AP

Refik Anadol
Quantum Memories: Nature Studies, 2021
Video (color, sound)
16 min, loop
Edition of 5, 2 AP