Superradiance

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1 Description

Superradiance (2024) is a multiscreen video and sound installation, film and performance exploring **embodiment**, **technology**, and **planetary consciousness**. It invites the viewer to **extend their bodily perception beyond the skin** and **into the living environment**.

The work combines **poetry**, **dance**, and insights from **neuroscience**, woven together with **code**, **simulations**, and **generative AI** to evoke a visceral, intimate connection to the living planet.

It's one thing to intellectually know that we are deeply entangled within complex assemblages of life, interdependent physically, chemically, and biologically, across multiple scales of time and space. But how can we **feel this connection in our own bodies**?

Dance is one of our earliest biotechnologies. We dance to express ourselves, to connect to each other. Through ritual and ecstatic dance, we dance to experience union with the universe directly.

We draw upon the cognitive phenomenon of **Embodied Simulation**, where, as you observe another person moving, you feel their movement in your own body. As Vittorio Gallese writes, "By means of a shared neural state realized in two different bodies ... the 'objectual other' becomes 'another self.'"

39th Conference on Neural Information Processing Systems (NeurIPS 2025) Creative AI Track.

Superradiance leverages this cognitive phenomenon of *embodied simulation*, in an immersive, ritual sanctuary, where invisible dancers embedded in animate environments transform forests, oceans, and deserts into extensions of our own bodies. And where technological mediation becomes a means of exploring embodied consciousness rather than escaping it.

Superradiance currently consists of two chapters.

Chapter 1: Embodied Simulation meditates on the idea of the 'body' and the 'self' as a transient assembly of cells, micro-organisms, and cosmic matter, temporarily organized to give rise to what we perceive as a body and a self. Framing dance as an ancient biotechnology—a primal, unifying act that connects individuals to each other and to the living world—the piece leverages the cognitive phenomena of embodied simulation to reflect on bodies as sites of exchange and transformation, and embrace the paradox of feeling like an individual, intelligent being, while being composed of trillions of other living, intelligent beings.

While Chapter 1 looks inwards, and reflects on the body and the self as an assemblage composed of trillions of intelligent, living beings; **Chapter 2: Embodying Earth** ventures outwards, beyond the skin, extending the body into the living environment, contemplating the whole planet as a living organism, brought into being through the intricate interplay between trillions of interdependent living organisms, of which we are part. Delving into the rich symbiotic webs of our living planet, 'Embodying Earth' journeys beneath the surface, where life metabolizes rock into soil. And then stands up into forests, rivers into the sky, before falling back to the earth as rain, into the ocean, into reefs, deserts, and back into the air, and back into the earth. The chapter weaves together the dynamic exchange between land, water, and sky, highlighting the transformative dance between geological and biological forces, as life both emerges from and reshapes the planet, and how ancient life continues to nourish the present, just as we will nourish the future.

To live in the current era is to live with heartbreak. Our best intentions cannot dismantle the systems accelerating ecological collapse, community loss, and suffering. Knowledge and technology have grown, yet crises deepen. As Robin Wall Kimmerer notes, there is enough food for all, yet people starve — the problem is not scarcity, but worldview. While structural change is essential, she proposes an immediate value shift: "Might cultivation of gratitude be part of the solution?"

As artists, we may serve here — inspiring consciousness rather than amplifying fear. Donna Haraway reminds us that the stories we choose shape the worlds we inhabit. Anna Tsing urges us to embrace "collaborative survival" amid environmental disturbance, rejecting purity in favor of adaptive coexistence.

Superradiance offers a sanctuary to explore the universe's collaborative intelligence and our place within it, positioning computation as a property of nature and intelligence as co-created with the cosmos. We hold the self as relational, the body as part of the living environment, and the mind as extended into an intelligent universe.

We cannot simply return to old stories. The call to respect, interconnection, and collaboration must arise from where we stand today. We wield our most powerful tools — including AI — to foster reciprocity over extraction, revelation over obfuscation. The intelligence we need is already distributed across biological and digital, ancient and emerging networks. Our role is not to dominate, but to remember how to collaborate.

2 Bio

Memo Akten is a multi-disciplinary **artist** and **computer scientist** investigating the intricacies of human-machine entanglements; perception; consciousness; Cosmosapience; and the harmonies and tensions between technology & ecology, science & spirituality, modernity & ritual, self & collective intelligence. For more than a decade he's been working with Artificial Intelligence, Big Data and our Collective Consciousness as scraped by the Internet, to reflect on the human condition. Drawing connections between intelligence in machines, intelligence in nature, computer science, fundamental physics, biology, neuroscience and philosophy, his work is ultimately driven by a profound curiosity in the nature of reality, nature of life, and nature of the mind.

He creates algorithmic and data-driven moving images, sounds, and large-scale responsive installations and performances. He holds a **PhD** from **Goldsmiths University of London in artistic and creative applications of Artificial Intelligence**, and he is **Assistant Professor of Computational Art** at **University of California San Diego**.

Akten has received numerous awards including the **prestigious Prix Ars Electronica Golden Nica**. His work has been widely exhibited and performed internationally at venues such as the **Venice Art Biennale**, **The Grand Palais** Paris, **The Royal Opera House** London, **Moscow Museum of Modern Art**, **Shanghai Ming Contemporary Art Museum** and many others. He has presented his research at leading academic conferences such as **NeurIPS** and **SIGGRAPH**, and his PhD thesis was recognized by the leading art & science journal **Leonardo** for its 'special relevance'. Featured in major publications including **Wired**, The **Guardian**, and **The Financial Times**, his work is also included in books by Madeline Schwartzman, Arthur Miller, and Christiane Paul.

Katie Peyton Hofstadter is a multi-disciplinary **artist**, **writer**, and **curator** whose work investigates the complex intersections of embodiment, technology, and consciousness. Through her diverse practice, she explores the dynamics between knowing and feeling, and examines how emerging technologies — particularly artificial intelligence and technologically-mediated imagination — shape both cultural narratives and direct experience.

Her work has been exhibited internationally at galleries and festivals, including the **Venice (Art) Biennale**, **Tribeca Film Festival**, **British Film Festival**, **Xtopia Immersive**, the **Digital Body Festival**, **Taikang Art Museum**. Her art and public projects have been covered by major media outlets such as the **New York Times**, **Los Angeles Times**, **The San Diego Union-Tribune**, **The Washington Post**, and **Smithsonian Magazine**. Her essays and interviews appear in leading arts and literary publications including **Flash Art**, **The Believer, BOMB**, The **Bulletin of Atomic Scientists**, and **Right Click Save**; and her writing has been transformed into curated exhibitions at EPOCH.GALLERY, Vellum/LA, and Cal Poly + The Center for Expressive Technologies, demonstrating the dynamic interplay between her theoretical work and curatorial practice.

Her contributions to public art and social discourse include several international art campaigns. She is a co-founder of the **ARORA network**, bringing together over 70 artists creating new AR monuments to diverse female and gender-expansive voices in public spaces; as well as the **Climate Clock monument NYC**, a global call to #actintime on the climate crisis. Future Art Models, an experiment in prefigurative imagination commissioned by apexart, guides young creatives to design alternative professional models in the arts. For ten years, she taught at Parsons, The New School, and F.I.T.

3 Credits and Acknowledgments

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