Luke Shannon’s portfolio

January 28, 2025

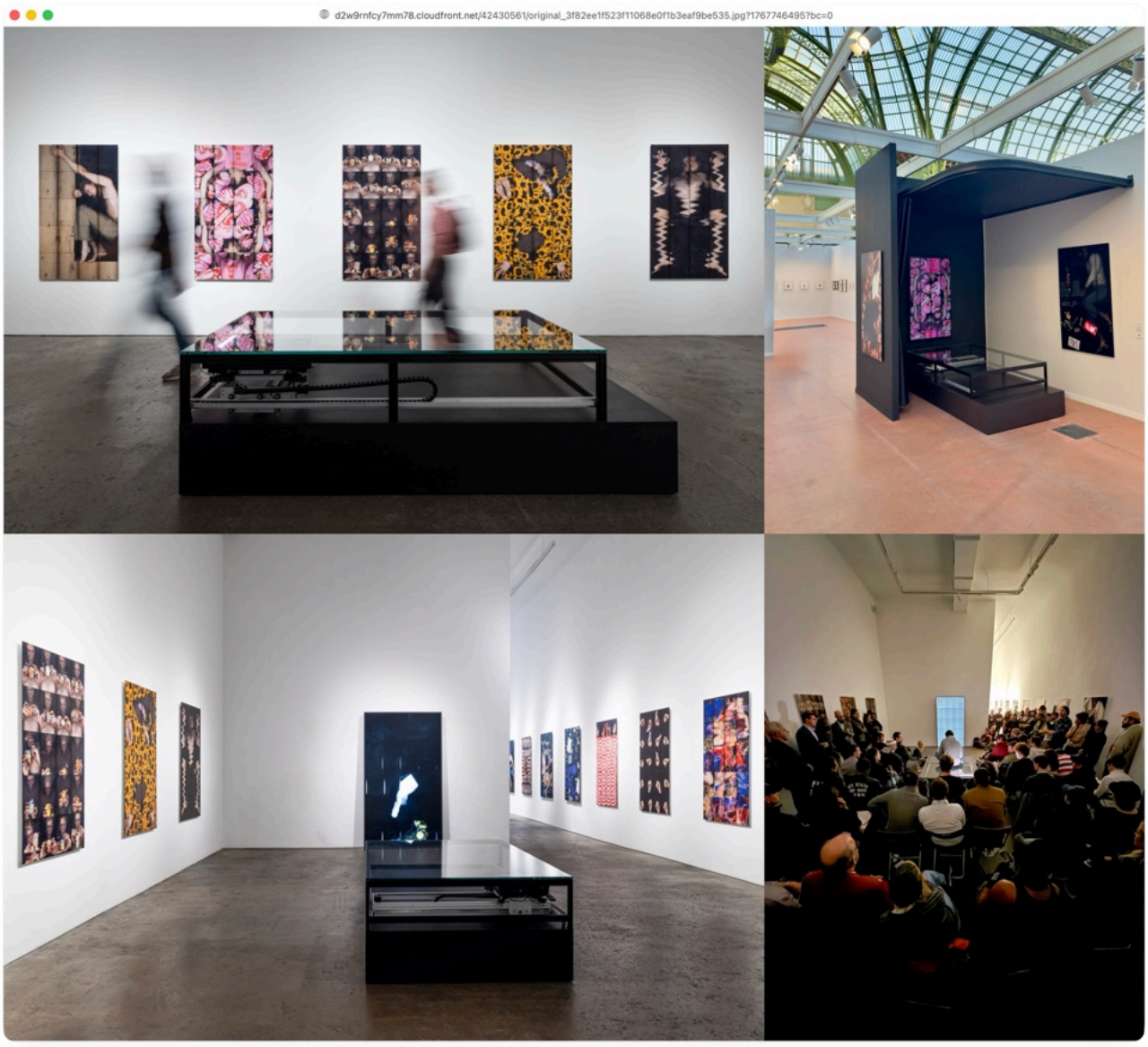
Luke Shannon (b. 2000) is a generative artist using code and art machines, examining selfhood in systems. He is a 2025 Steve Jobs Archive Fellow, and with previous residencies at Art Blocks Marfa, the Council of Science and Technology at Princeton University, and Bright Moments. He has exhibited internationally with HEFT (NYC, Paris Photo), ARTXCODE (NYC), Tonic (SF, NYC), Bright Moments (LA, CDMX, Paris, Venice, Berlin), Art Blocks (Marfa, TX), Princeton University (NJ), and performed at Dia Beacon (NY).

Luke is online at lukeshannon.xyz.

CV

Replacement Character

October 2025-ongoing



2025
plotter-scanner, scans

clockwise from top left: install shot 1, Paris Photo 2025, performance-lecture, install shot 2

Selected install shots from my October solo show *Replacement Character* at Heft Gallery, from October 8 to November 8, and then at Paris Photo 2025.

Luke Shannon's *Replacement Character* examines surveillance and selfhood through an interactive, kinetic photographic apparatus: the *plotter-scanner*. This custom machine, designed and built by the artist, combines a standard document scanner and a 4′×6′ plotter to create a life-sized scanner bed capable of scanning people, and offering new perspectives on documenting, digitizing, and reflecting the self.

2025
Sunday, August 31, 2025 at 1:42 PM (Sleeping)

2025, Unique archival pigment print, signed on verso + token.
58.5″ × 34″

Series of 40 self-portraits, visible here: https://heftgallery.com/exhibition/replacement-character

The *plotter-scanner* is a tool of simultaneous surveillance and witness. While the scanner suggests a clinical and impersonal perspective, the act of making images with the plotter-scanner requires total closeness. The resulting prints are both precise and intimate, holding the body at scale, yet fractured at the seams.

Shannon likens this to being online: an expansive presence stretched across windows and gridded feeds, pieced together from fragmentary, constantly updating views. Shannon's engagement with the machine becomes a new form of self-portraiture: durational, ephemeral, and mirroring the artist's own presence.

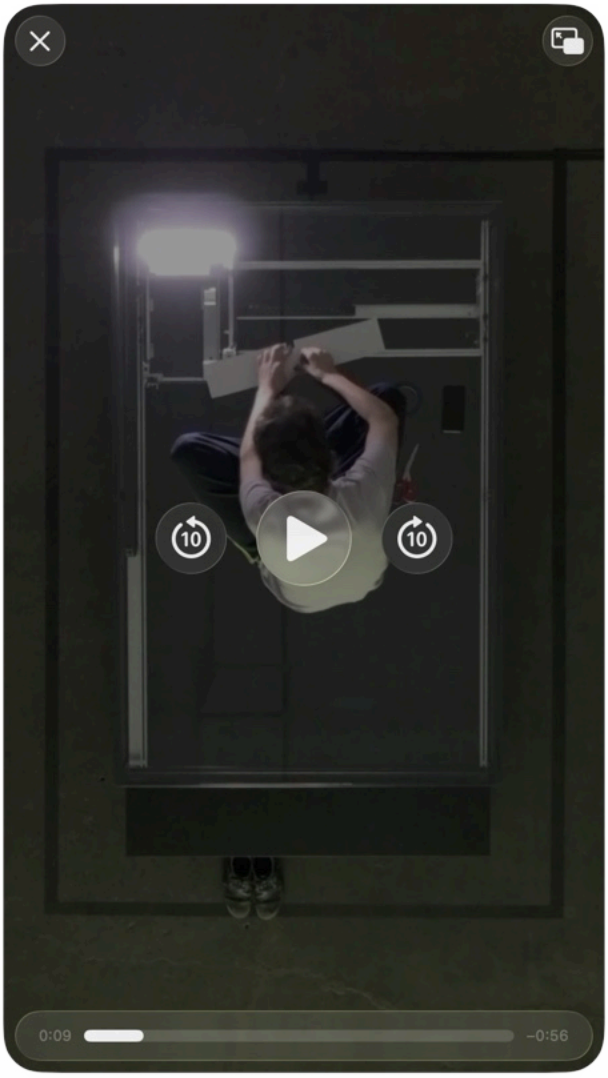
2025
Greg on Wednesday, November 26, 2025 at 12:17 PM

2025, Unique archival pigment print, signed on verso + token.
58.5 × 34 in. · 148.6 × 86.4 cm

Included in Replacement Character Commissions, an ongoing portrait series with collaborations between Luke and another person using the plotter-scanner.

The exhibition's title refers to the "" symbol—a placeholder used when a computer fails to recognize or render a character. Shannon explores the idea of a swappable, seemingly replaceable self in the digital age, where physical presence becomes data—hyper-accurate, yet charged with evocations of human experience. Replacement Character thus examines the porous boundaries between us and the devices that mediate our reality.

This work prompts viewers to reflect on what it means to be seen—not only by other people, but by our environments, technologies, and the ubiquitous systems we increasingly engage and inhabit. In doing so, it raises critical questions about how intelligent machines might "read" or interpret us through images.



2025
plotter-scanner-caminhandos-timelapse

plotter-scanner, paper, tape, scissors

https://www.are.na/block/42421763

A process video timelapse from above of doing a scan with the *plotter-scanner*, after Lygia Clark's *Caminhandos*. Note that the *plotter-scanner* only captures above the scanhead, so tracking that creates a full image.

2025
Replacement Character Book

Edition of 250.

A partial view of the initial pages of a book I made for *Replacement Character*. It contains an introduction; unique essays by David Reinfurt, Maya Man, Rex Shannon, Ruby Justice Thelot, and Sofia Garcia; and the transcript of a performance-lecture I did in the gallery on October 21.

The full book can be viewed here: https://drive.google.com/file/d/1HwYZhAbIFnkM3M-kJif4ljJvhZ-1a_qm/view

Seating Arrangements

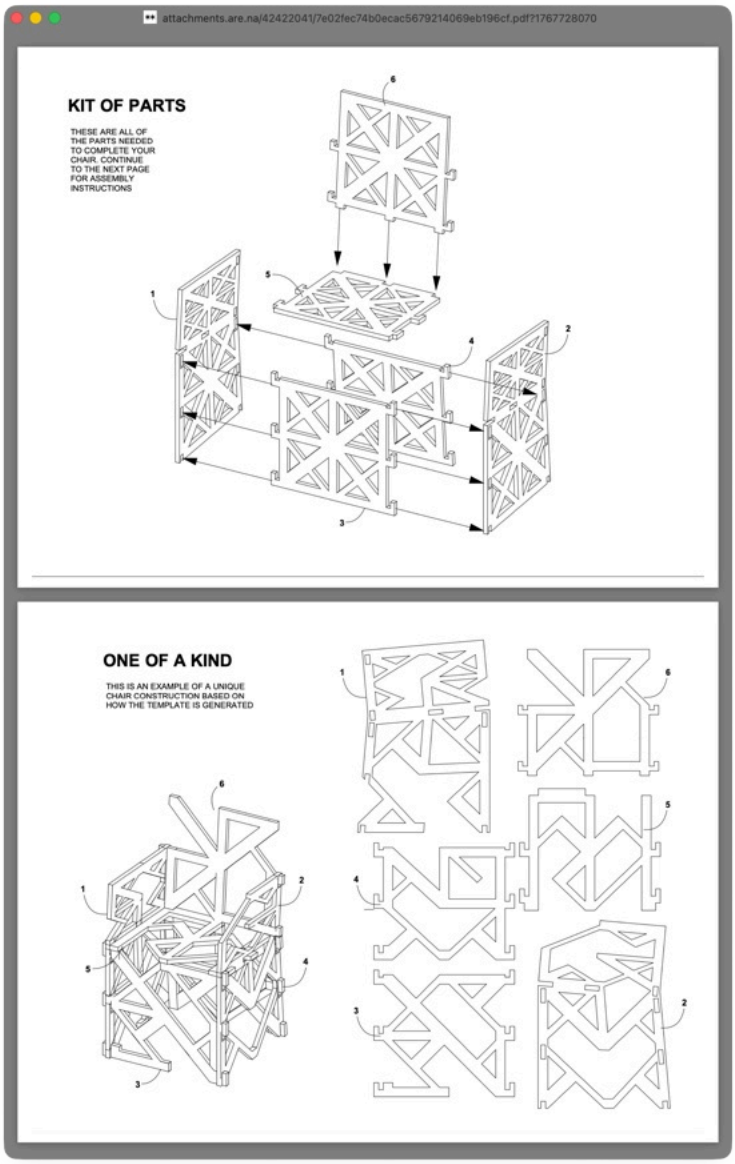
November 2024

2023
left to right: Seating Arrangements #17, Seating Arrangements #132

javascript, paper.js, plywood, cnc, acrylic paint

Seating Arrangements is my 2023 solo show with Tonic in New York City from November 16 to December 16.

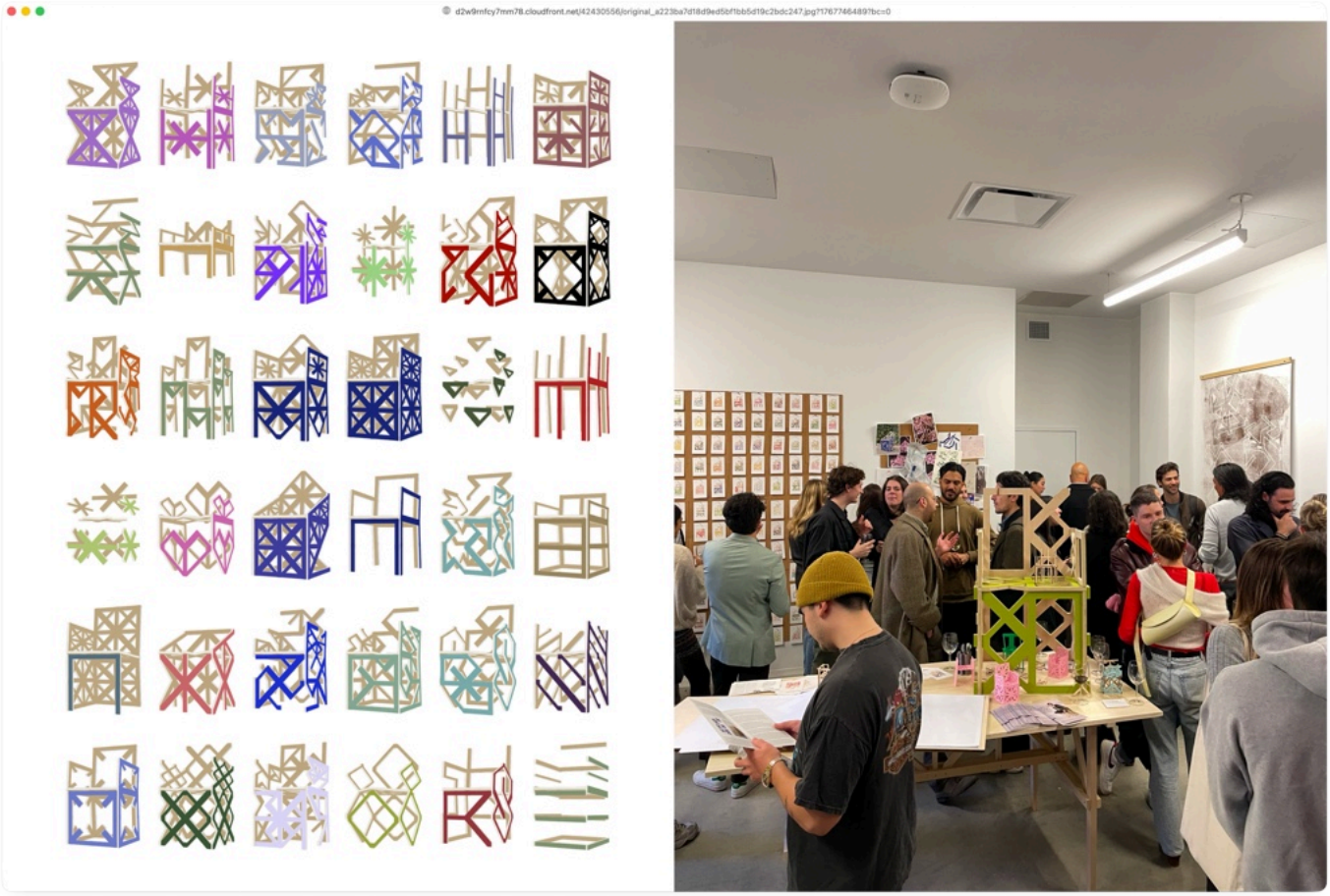
In Seating Arrangements, Shannon highlights both the matrix and its product, the print. His javascript algorithm generates a digital file that serves as the blueprint. These unique instructions are then executed by a CNC machine to carve out the distinct sections of the chair. The carved wooden slab is inked, simultaneously creating the print and painting the final chair. Finally these pieces are assembled to create a free standing chair entirely from the matrix—without any hardware. The print becomes a record of an intermediate event, and the matrix is shared as the final assembled sculptural piece of furniture.



2023
Seating Arrangements Instruction Manual

javascript, paper.js, plywood, cnc, acrylic paint

In this series, the generative algorithm does more than ornament the final structure: it is central to the very essence of the chair. The artist defined 220 short, straight segments of wood that can be included or excluded by the algorithm and can intersect with up to 13 other segments. The repeating geometry of the design allows the viewer to see the positive form of the chair in the included segments and the negative form of the chair in the absence of those that are not.



2023
left to right: grid of 30 Seating Arrangements, opening night

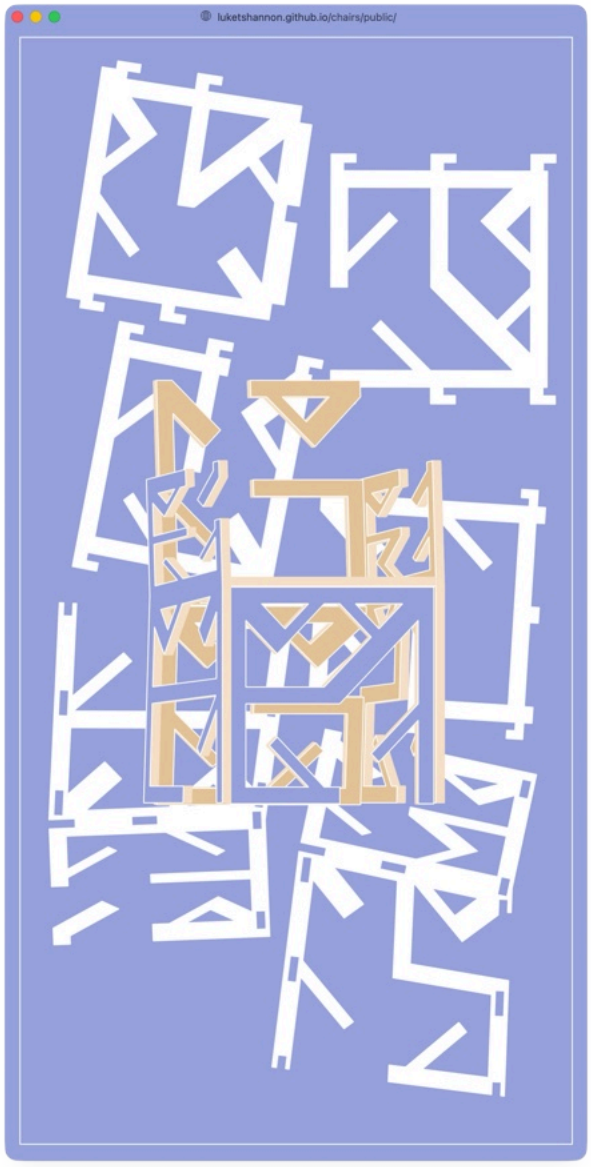
javascript, paper.js, plywood, cnc, acrylic paint

The range of possibilities for this algorithm is 2^220, or:

1,684,996,666,696,914,987,166,688,442,938,726,917,
102,321,526,408,785,780,068,975,640,576

unique chairs. The incomprehensible multitude of potential chairs elevates one of Shannon's core questions in the work: what is a chair? Many of the potential outcomes are not sittable, but does that exclude it from being a chair if it still registers as one visually?

If you were to overlap all of the chairs, there would be no single element that is shared by all. The viewer is denied an understanding of the platonic form of a chair, as there is no one common feature that can be distilled as the essence of chair within this series.



2023
Seating Arrangements (Public)

javascript, paper.js

Interactive and refreshable website with exportable instructions for making your own chair, here: https://luketshannon.github.io/chairs/public/

The removed segments insert a new dimension to the relationship between body, consciousness, and object. So much of what we come into contact with on a daily basis is designed to recede in our minds—consider “pain free” UI/UX or an office chair. We constantly interact with engineered systems that do not assert themselves. Their recession can mean forgetting that they exist at all, and forgetting that they are designed for their own purposes outside of our wants and needs.

The unique generative structures and simple materiality of Seating Arrangements mean these chairs do not disappear, but rather insert themselves into your consciousness. You must think of how to sit down, perhaps where to put your arm. This awareness of your body and your relationship to the piece reminds you that it has its own identity.

Lightbreak

2022-2024

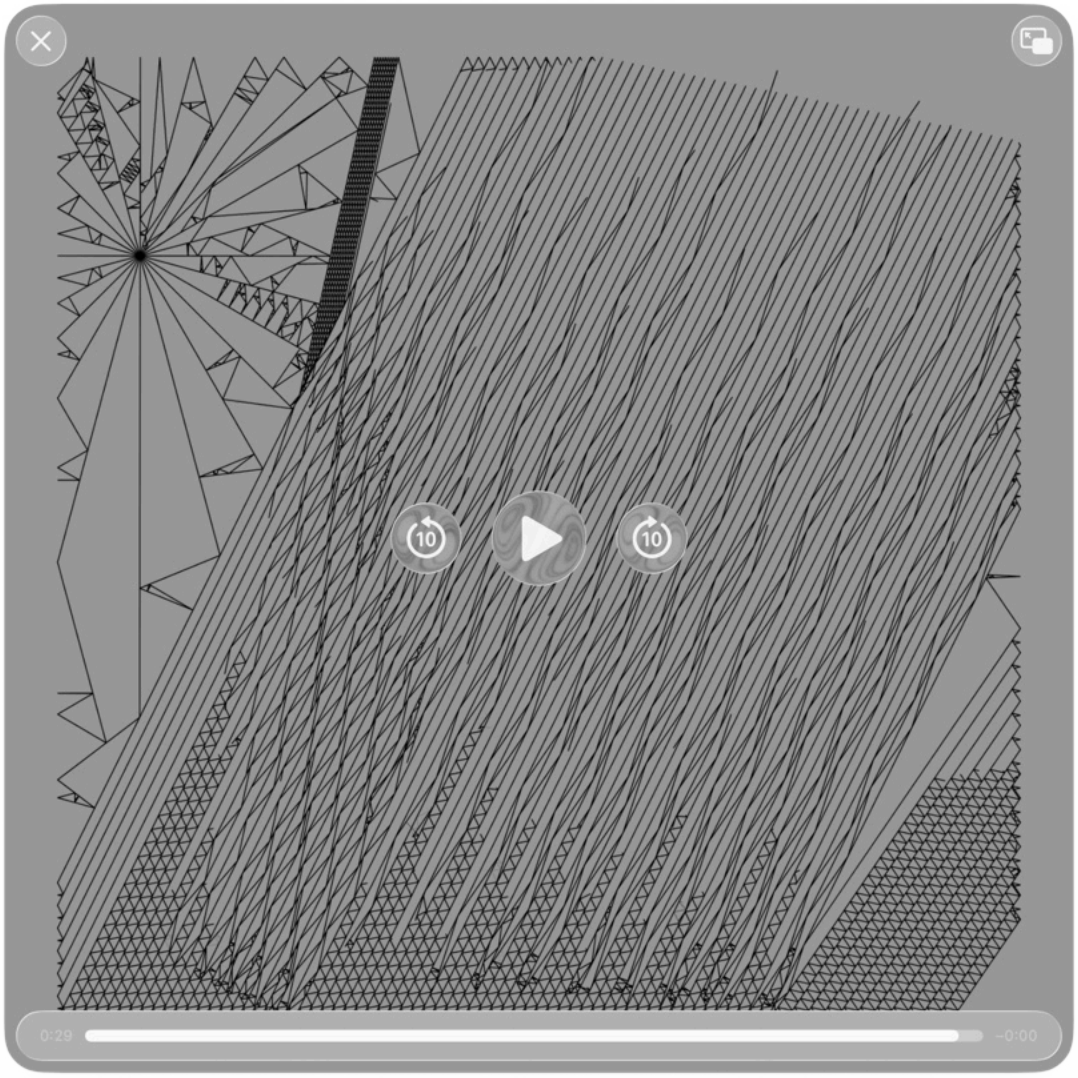
2023
.:-=+*#%@

javascript, p5.js

https://vimeo.com/825297346

An entirely code-based, generative animation based off of light reflection and refraction. It asks the simple question: what if light could bounce off of itself? (And the more surprising truth: it does.)

Screened at Punto y Raya 2023 in Lisbon (PT), Anifilm 2023 in the Czech Republic, the Thomas Edison Film Festival 2023 in New Jersey, and then awarded and re-screened as a part of Best of Punto y Raya 2023, at Annecy International Animation Festival (FR), Monstra International Animation Festival of Lisbon (PT), Animator Festiwal in Poznan (PL), World Festival of Animated Film in Varna (BG), ZumZeig Art House Cinema in Barcelona (ES), and more.



2024
Lightbreak #36

javascript, p5.js

24 hour interactive animation, included in 2024 group show Bright Moments Paris. Interact here: https://www.artblocks.io/collection/lightbreak-by-luke-shannon

In the classic example of a DVD logo bouncing around a tv, we have a natural inclination to predict where it will go.

There is a well-defined process of particle and boundary that makes this possible. But what if the particle and boundary were the same? If there was no distinction, if a point could reflect against its own history, if a ray could change its conditions as it experiences them? If light could interact with itself and countless others simultaneously in a fractalized infinity, shaped by time, giving structure to time itself —where might it end up?

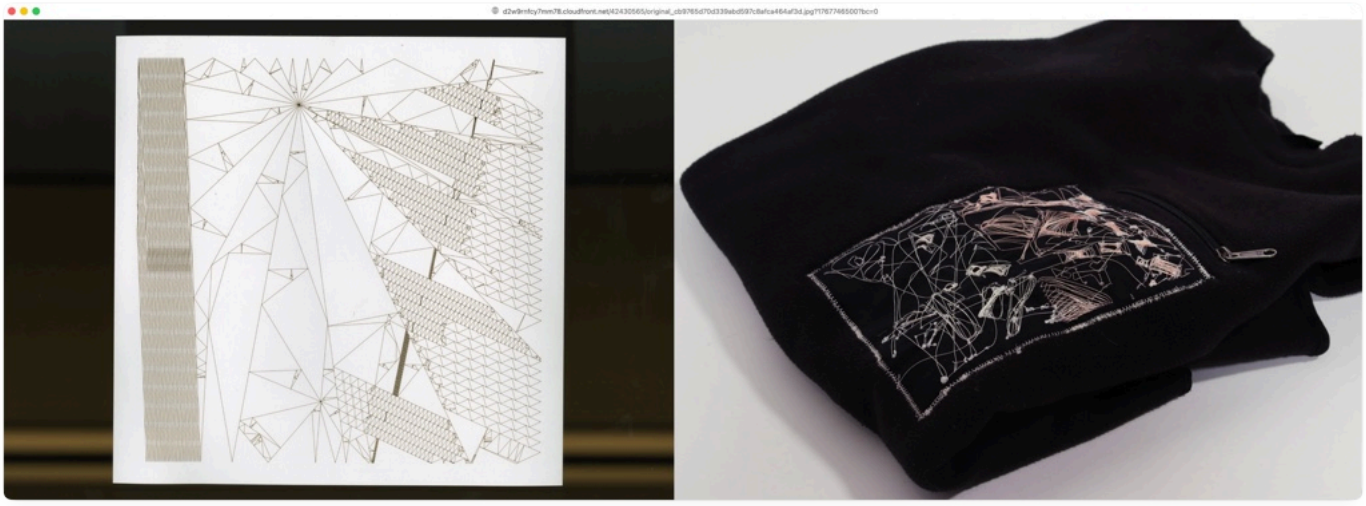
2023
pattern.dst

javascript, p5.js, vpype, embroidery

Included in Future Frequencies, group show and sale at Christie's, in collaboration with Gucci. Video: https://www.are.na/block/30120592

pattern.dst runs a custom algorithm within a coat pattern to generate an infinite number of unique wearable jackets and embroidery patterns. Each time it is viewed, the artwork creates a completely new set instructions for an embroidery machine to a make a physical work, which can be used to create a full size jacket. Each article of clothing generated is unique to each viewer, and contains the instructions to fabricate a custom garment that can never be created again.

As a result of this project, this Gucci coat pattern was open sourced (non-derivative license).



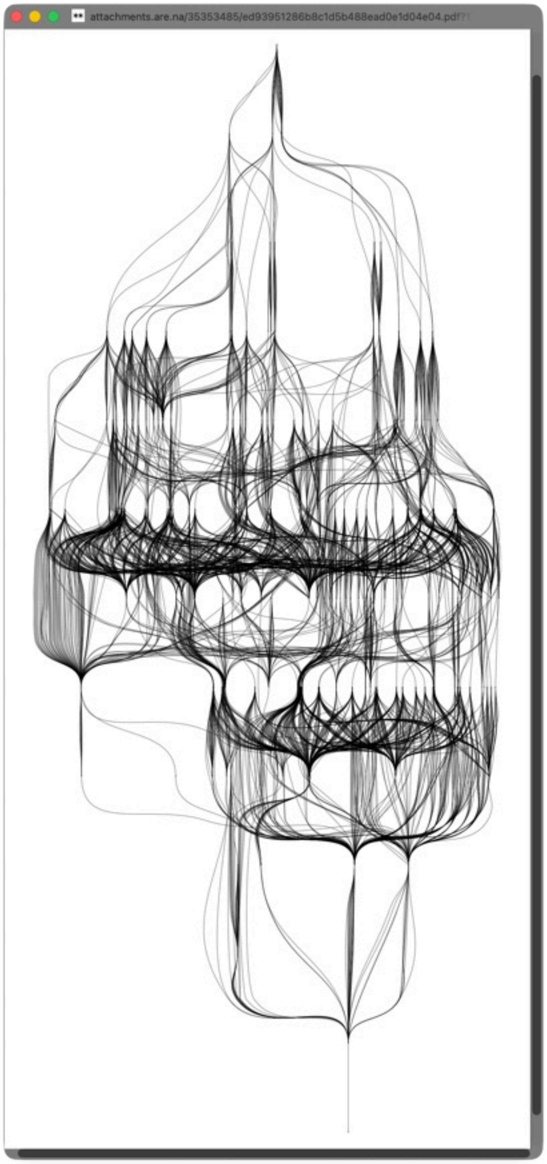
2022
Lightbreak physicals

laser cut frame of Lightbreak #36, 11″×11″
embroidered test square of pattern.dst, 4″×8″

Two of the physical manifestations of the Lightbreak algorithm.

Haiku Numbers

2025-ongoing



2025
Haiku Number DFA

python

Some numbers, when spoken aloud in English, are naturally haikus. The smallest such number is:

127177

or

one hundred twenty /
seven thousand one hundred /
seventy seven

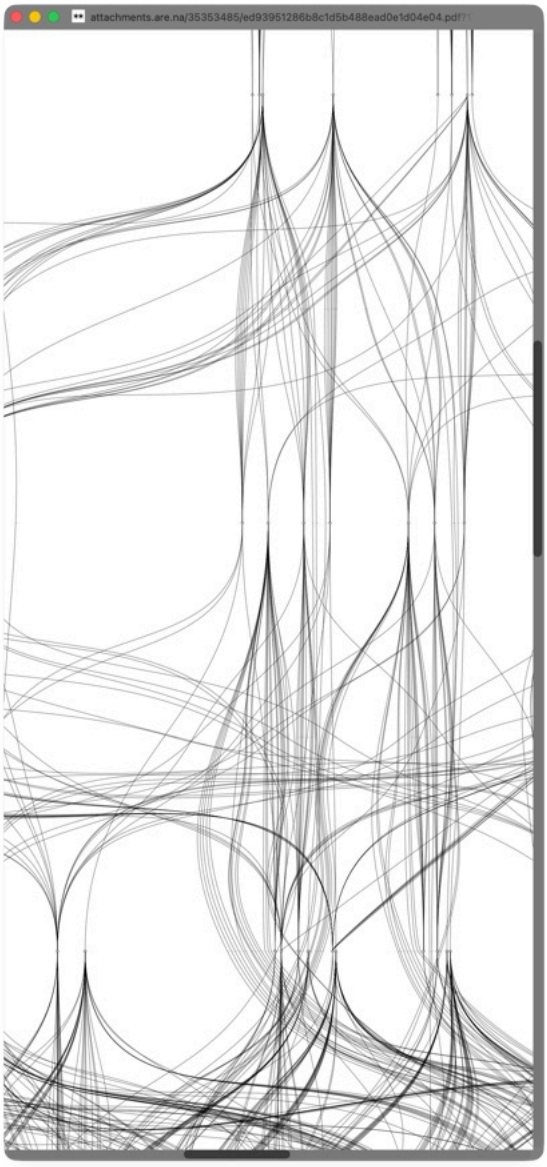
There is a finite but very full sequence of these numbers. The last one is

9990000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
00000000000099000000000012

or

nine hundred ninety /
nine centillion ninety /
nine trillion twelve

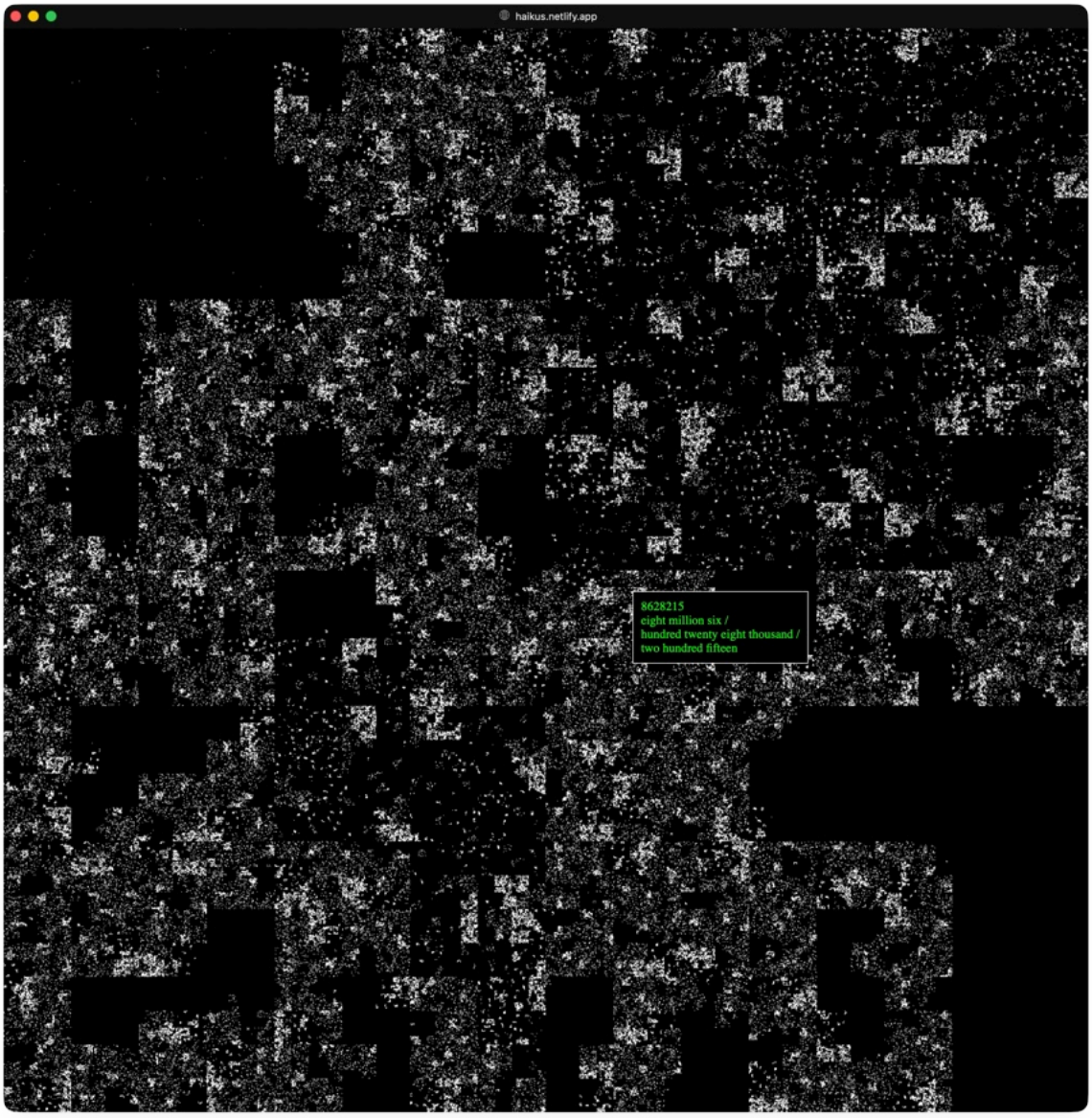
This image is the plan for a physical sculpture which contains exactly this set of over 120M such haikus and numbers. By starting at the top and tracing a path down to the bottom, the viewer collects one word per junction, and ends with a unique haiku number.



This structure is called a DFA, or deterministic finite automaton, and represents a formalization of a computer, fundamentally the same type of graph (though very different process) as an AI neural network. This work is about language, poetic permutation, and computer-symbolic representation.

2025
Haiku Number DFA (detail view)

python



2025
Haiku Number Hilbert Curve (16M)

python, javascript

Interact here (desktop only): haikus.netlify.app

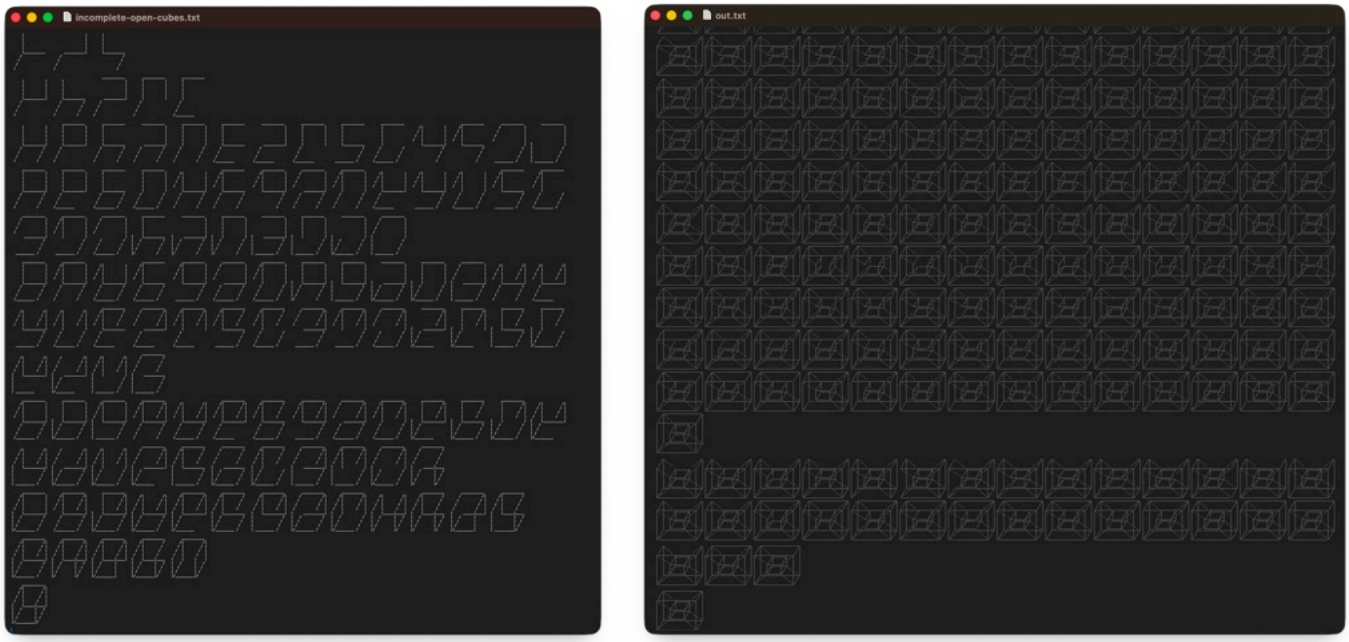
All of the haiku numbers under about 16,000,000, shown on an interactive hilbert space-filling curve. Zoom and mouse over an individual cell to display whether or not it is a haiku number, and why. The haiku numbers are both...

...something that already existed, out in the world, that my process has not made but only given name to. In this sense they are discovered and not created, and this is an objective, rigorous process to find them as they already exist.

...and something that is entirely dependent on convention and circumstance. It's arbitrary that I read the numbers this way, that I use English, that haikus are a 5-7-5 structure, that the digits 0 and 7 have two syllables instead of 1 (like every other digit).

Assorted Projects

2021-Ongoing



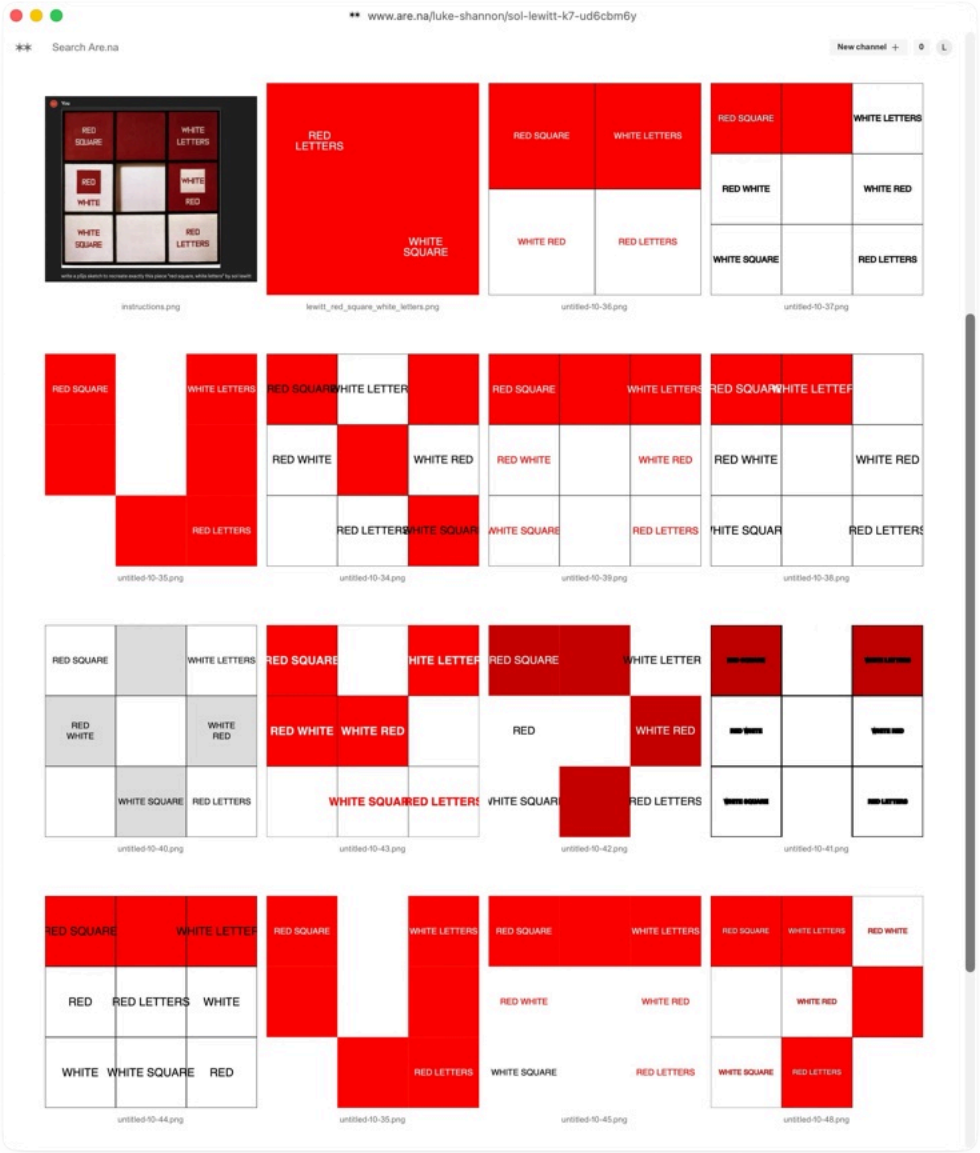
2026
incomplete-open-cubes.txt, incomplete-open-hypercubes.txt

python, .txt file

A recreation of Sol LeWitt's 1974 work Incomplete Open Cubes in ASCII characters, via a python program leveraging Burnside's Lemma.

And an extension to that program, categorizing all incomplete open hypercubes, the fourth dimensional version of a cube.

The absurdity of this new categorization, both because of its extreme number of instances and because of the impossibility to visualize fourth dimensional objects, references the systemic change of an artistic, personal, and political landscape dominated by hyper-objects (social media recommendation algorithms, consumer preference prediction embeddings, and large language model neural nets).



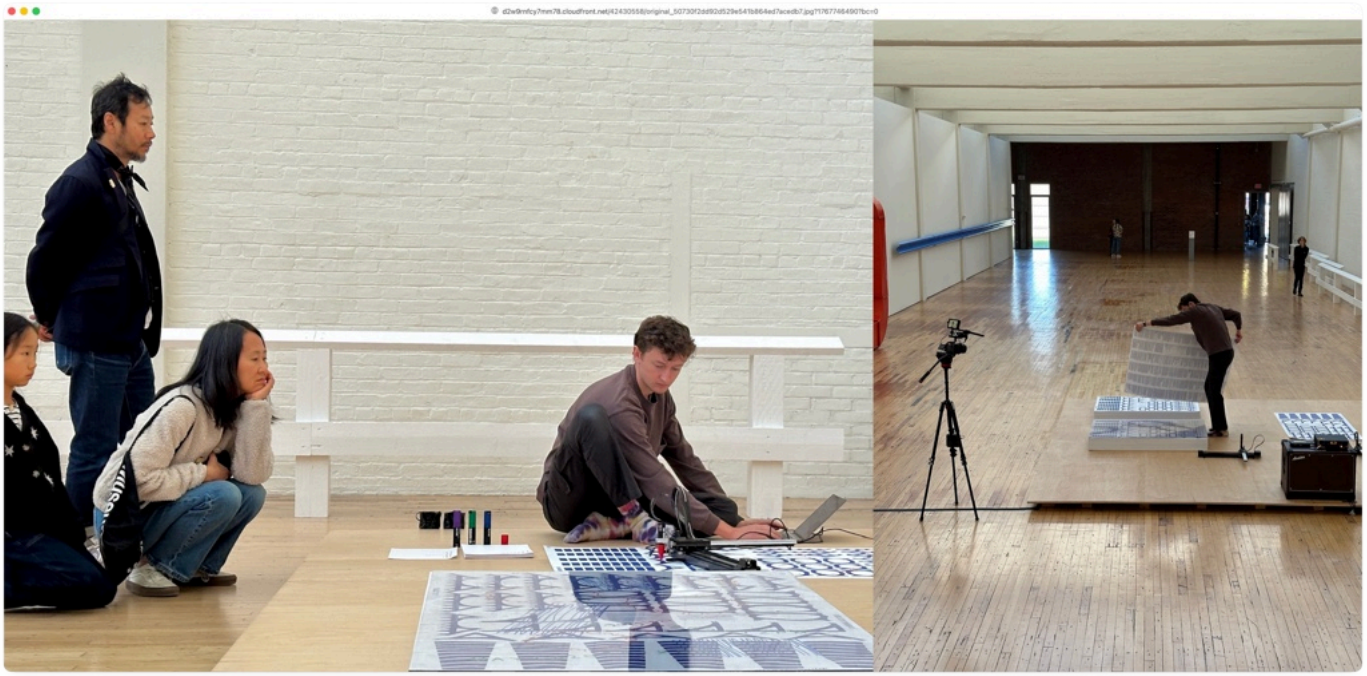
2024
Red Square, White Letters (2024)

AI prompted javascript, p5.js

Series of 20.

At the top left is Sol LeWitt's 1962 work, *Red Square, White Letters*. Notice that the center square is empty. This decision presupposes the context of display—knowing that the work will be hung on a white gallery wall. In leaving the square open, LeWitt not only emphasizes the piece's spatial position within the gallery but also calls attention to the supposed neutrality of the white cube. By integrating the wall into the composition, the work emphasizes the setting and its lexicon as an active participant in shaping the meaning of the artwork.

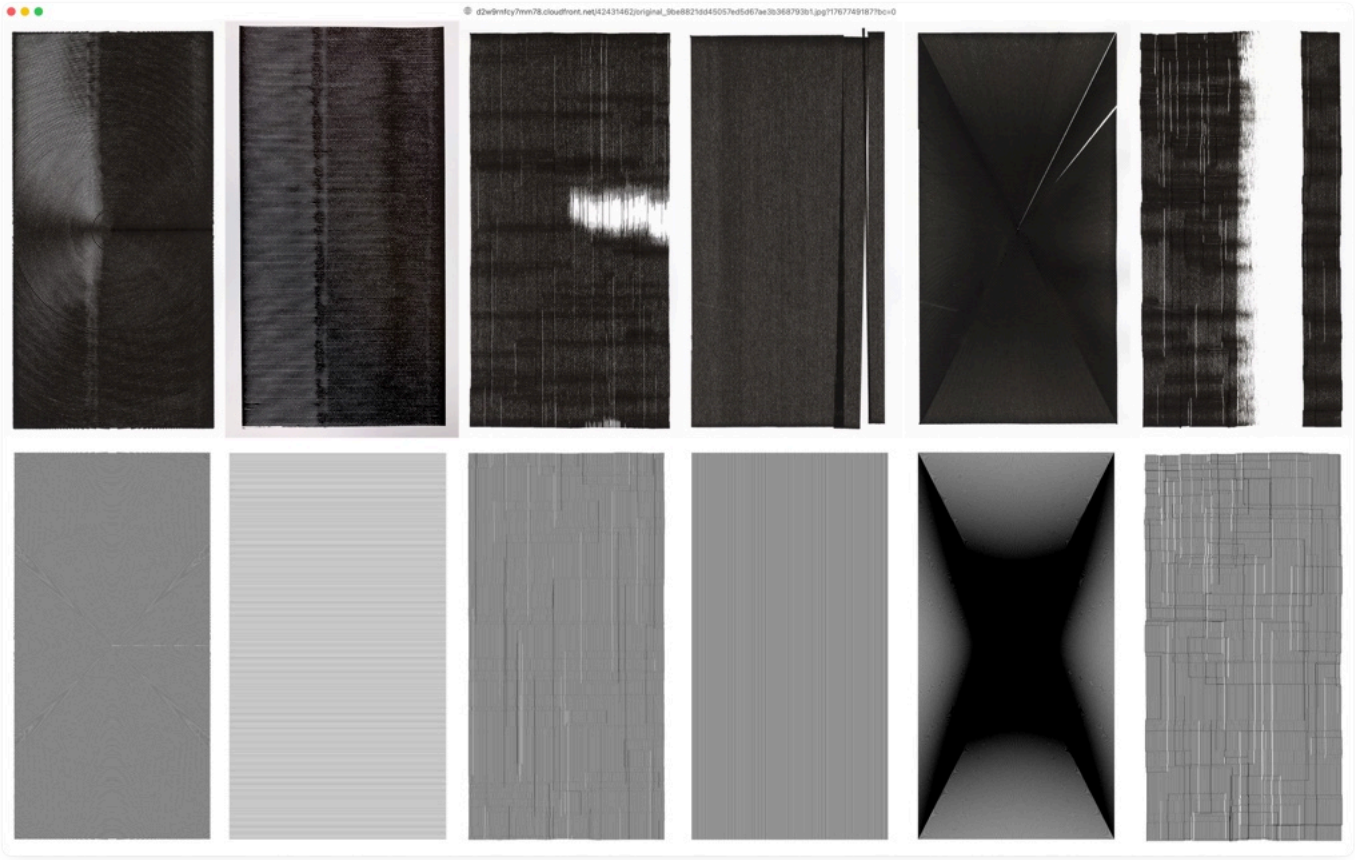
The original work seems to confusingly document, or prompt its own creation: "red square", "white letters." By iteratively recreating this work through text and image prompts in ChatGPT, I aim to reveal the texture and predisposition of the AI, through what is missing.



2024
Momentum at Dia Beacon

Assistant in plotter-performance

In 2024, I performed with Discoteca Flaming Star to activate Rita McBride's sculpture Arena, as an assistant to David Reinfurt. On October 25 and October 27, I plotted on top of posters just-in-time to advertise the event that was about to happen.



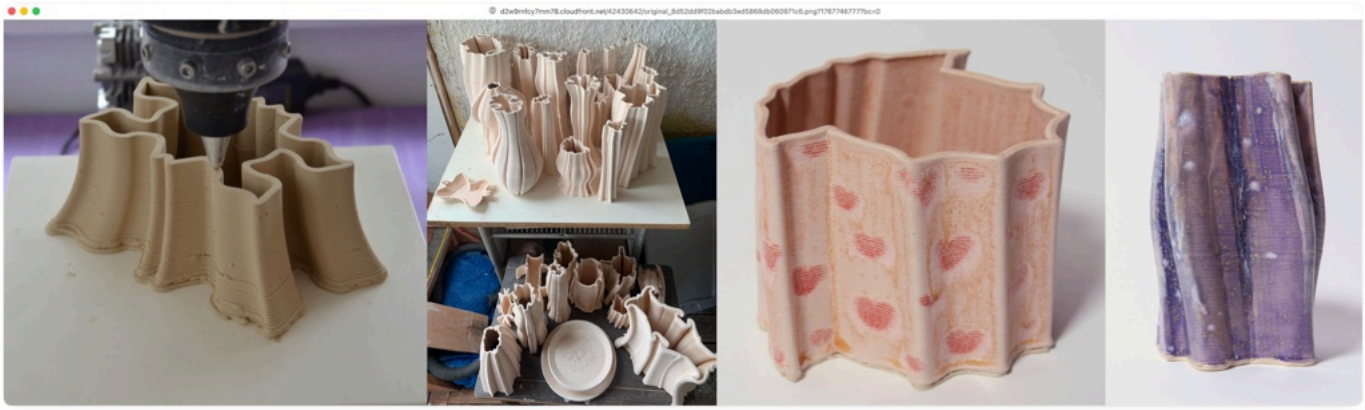
2022
HYSTERESIS

Plotter on pen on paper

clockwise from top left: BODY, ARM, SERVO, PAPER, PEN, INK, INK.svg, PEN.svg, PAPER.svg, SERVO.svg, ARM.svg, BODY.svg

Hysteresis is the tendency for an effect to lag behind its cause. In a plotter, this comes primarily from a pen's inertia, friction, and mechanical slop, causing its tip to lag behind its idealized, virtual position. This means that a line drawn from the left of the page to the center of the page might not mean a line drawn from the right of the page to the same center.

In this series, I attempt to expose the body of the plotter by decalibrating one part of the plotter at a time, while simultaneously tuning spacing of simple svg files to maximize the effect of hysteresis. This reveals the way the plotter as a system leaves itself in its creations—through biases and "error."

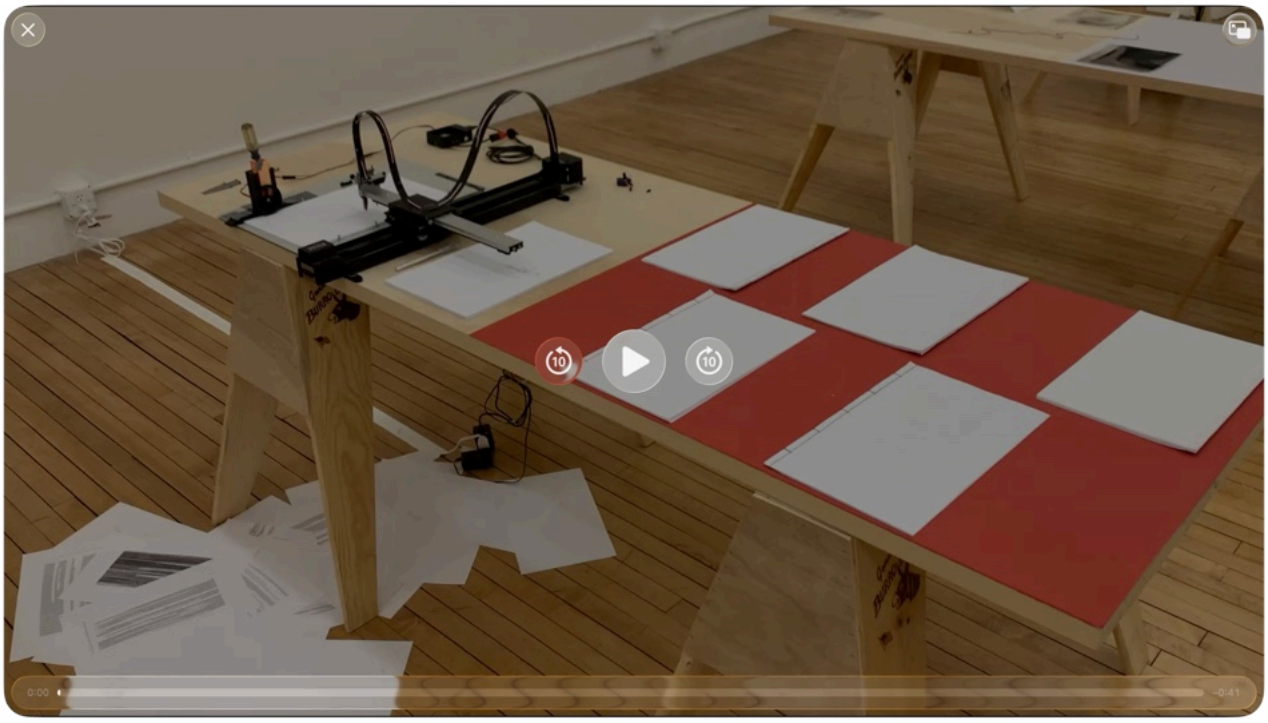


2022
left to right: ceramics 3d printing process, bisque fired series, Marfa Vertebrae #3, Marfa Vertebrae #2

Ceramic, javascript, python, Blender, ceramic 3d printer

Marfa Vertebrae is series of studies in generative 3D printed ceramics from code written in javascript and python. The algorithm deforms, reflects, and extrudes a circle iteratively into a vertebral column, mixing technology and craft in an archaeological effort to demonstrate the reciprocity between self and algorithm.

These works were made while in residency in Marfa with Art Blocks in 2022. They have been exhibited at a one-day show at Art Blocks Marfa (2022), Lars and Luke (2023), and the SXSW Art Blocks Booth (2024).



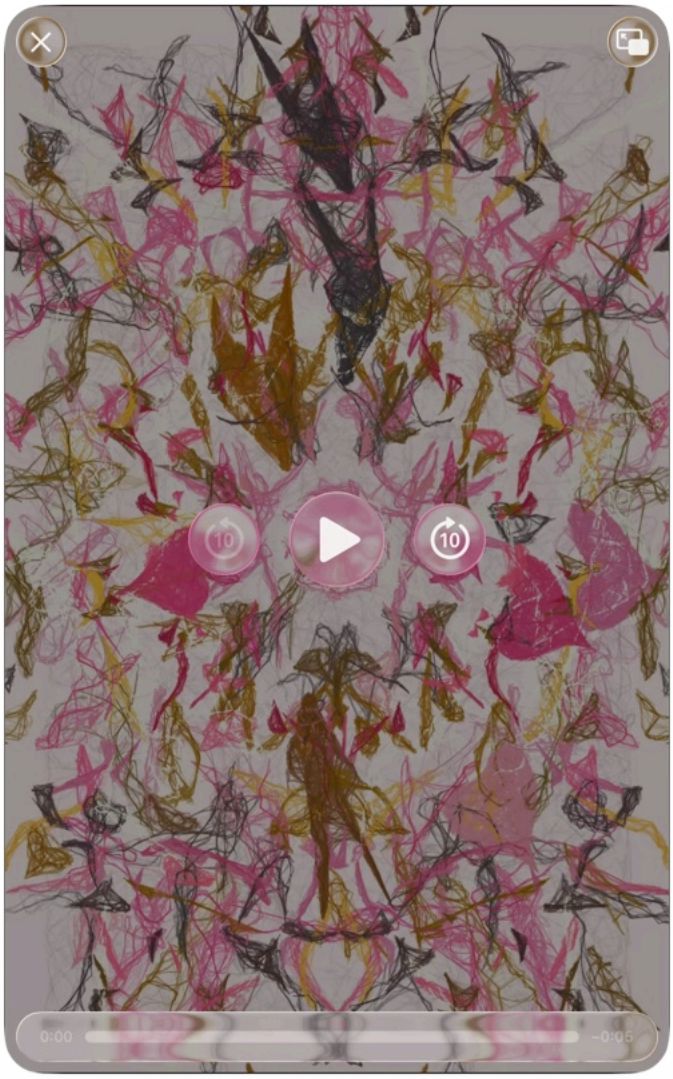
2022
plotter-printer

plotter, raspberry pi, python, javascript

Included in the 2022 Book & Posters show at Princeton University. https://www.are.na/block/35353083

A plotter system designed to plot continuously, and swipe the results on the floor (in this case, for a one week period over the course of the group show).

Previous outputs from individual algorithms were periodically collected, and hand-bound into six artist books.



2022
Orchids #199

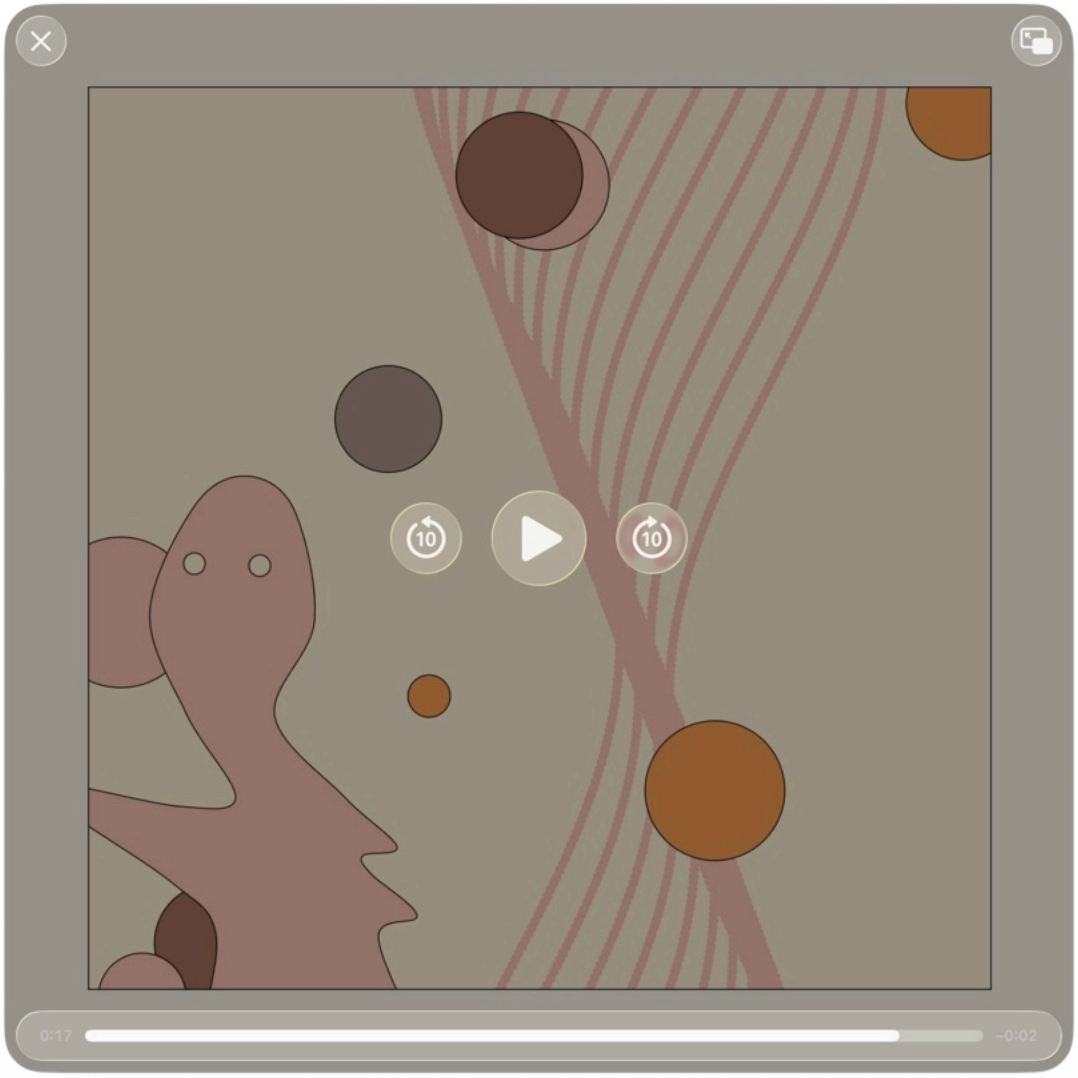
Javascript, p5.js

Included as a part of a simultaneous one-day solo show of this algorithm in NYC, LA, Berlin, and CDMX. Infinite, non-repeating animation. Series of 440.

https://www.artblocks.io/collection/orchids-by-luke-shannon

If an orchid looks within itself, it realizes that its presence depends on the bugs, birds, and people that pollinate it. The orchid realizes the rain and the sun are within itself. Together, they endlessly change, bloom, and decay, suffused with light, energy, and love.

By examining herself, the orchid forgets herself, and therefore is verified by all things.



2022
The Opera #66

Javascript, p5.js.

Infinite, non-repeating animation. Series of 256.

https://www.artblocks.io/collection/the-opera-by-luke-shannon

My first algorithmic project released with Art Blocks online during the pandemic.

On a cosmic stage, these actors sing an infinite song. What do they reach for? Who are they searching for? Do their faces show wonder—or sadness? Sometimes they sing for themselves, sometimes they sing for the crowd, and sometimes they sing for the void.