

# On-chain Data Sculpture Exhibition

Link to the project: [PILL: On-chain Data Sculpture Exhibition - SoP 2024 RFC - Summer of Protocols](#)

## Prologue

The on-chain world is shaped by the data we own, and current data visualization tools are not enough for us to actively connect with our data. Do I understand my data? Can I interact with my data? How can I connect with others through my data? We need more diverse representations of data.

An **artistic approach to data processing** might be a viable solution, and this project represents it through **data sculpture**.

Data sculpture presents data not only in a **digital format** but also through **physical objects**; these can be crafted from various materials, inviting people to interact with them on a **different perceptual level**. We have lots of narratives on-chain: some make us pleased, others encourage, and some even disgust. Yet, most times, we feel lost and exposed to misunderstanding! What if we could **bring those narratives off-chain** and invite creators to sculpt physical objects that interpret their stories in exhibitions?

A compelling data sculpture should offer multiple layers of engagement. Audiences can swiftly grasp the main narrative, yet the work always provides an opportunity for deeper exploration, encouraging everyone to co-create and support the narrative.

We need **curators** who not only commit to care about the data and its ownership but also aim to cure everyone involved in the exhibition.

# Objectives

- Utilize open-source hardware or simple everyday objects to create installation art, enabling people to interact with and artistically understand data.
- Produce fiction designs for data sculptures.
- Develop protocols for future exhibitions and curations of on-chain data sculptures.

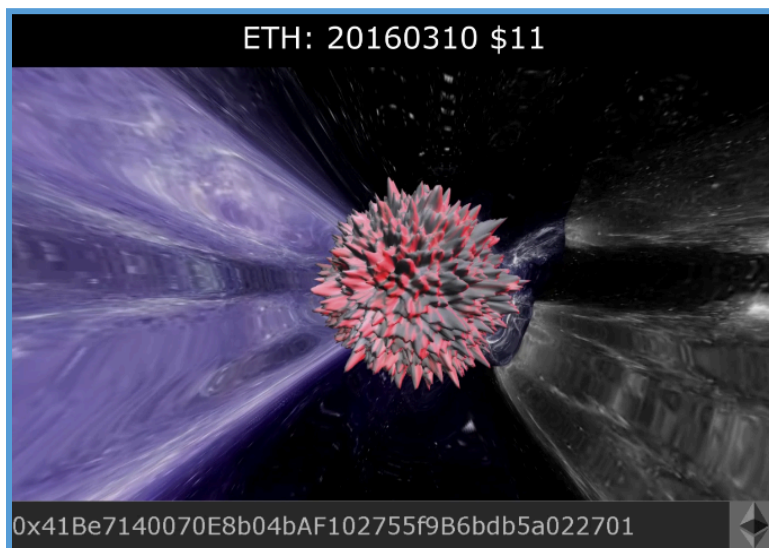
## Example of On-Chain Data Sculpture

For this PILL, I created an interactive art installation to serve as an initial example and inspiration for on-chain data sculptures.

### Introduction

#### TL;DR

By entering a wallet address, the audience receives a unique meteorite that flies at varying speeds through the Ethereum wormhole, driven by the market price data of ETH. Simultaneously, it controls the rotation speed of a small fan made with open-source hardware.



## Project Videos:

[ETH Wormhole](#) (Digital Part)

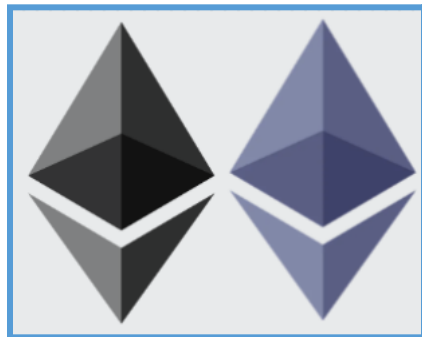
[ETH Price Fan](#) (Physical Part)

# Details

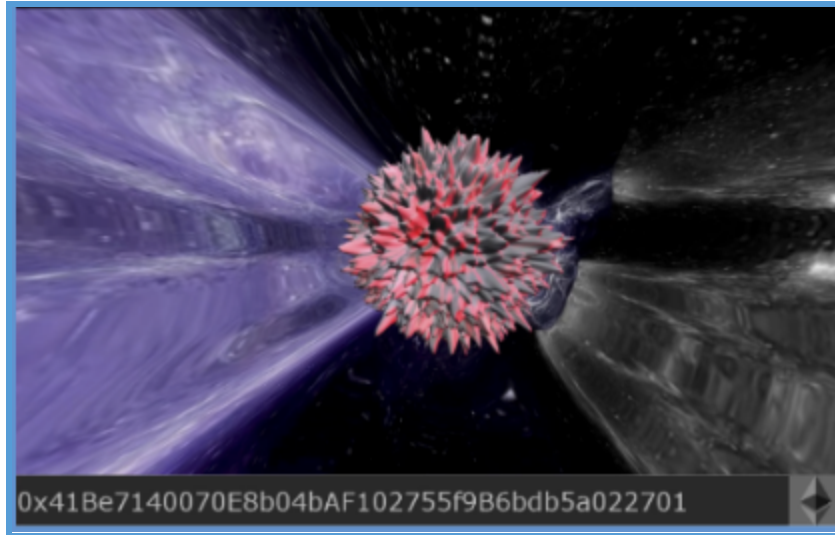
## Digital Part

The digital part is created using Touch Designer, chosen for its efficiency and ease of use in making small-scale digital works.

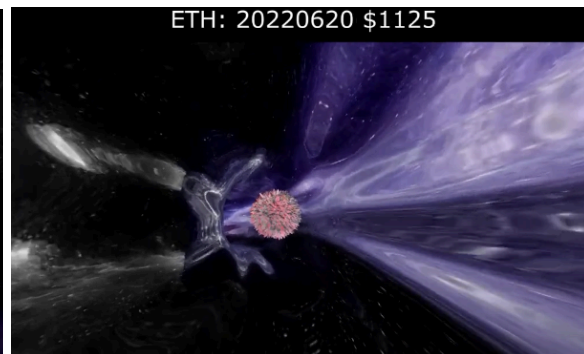
First, I constructed a torus (doughnut) model and applied the following two ETH icons onto it, stretching them to simulate the effect of a wormhole.



Next, I placed a meteorite within the wormhole. The meteorite was created by applying surface noise to a sphere model; the noise values were generated based on the wallet address entered by the audience.



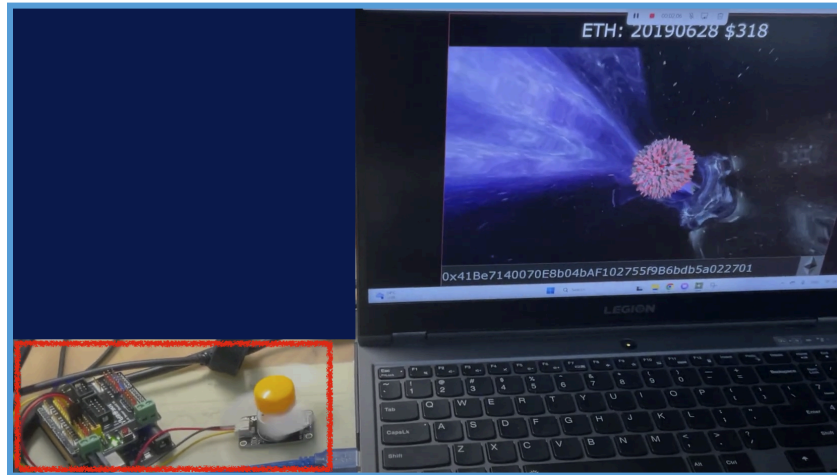
The flight speed of the meteorite is adjusted based on the price of ETH. For this, I used data from [Investing](#), covering the period from March 10, 2016, to June 20, 2024.



## Physical Part

The physical part consists of open-source hardware, specifically an Arduino, and a small fan. The price data is sent from Touch Designer via a serial port. Ideally, the fan should start spinning at the lowest value of \$6.70 and reach full speed at the highest value of \$4808.38. However, due to hardware limitations and mapping constraints, the actual observed effect is that the fan starts spinning at around \$300 and reaches full speed at approximately \$4000. This limitation is an inherent flaw in the work, but it adds

a sense of life to the installation; I found this interesting and chose to retain it rather than make precise adjustments.



## Future Plan

- Inspire more people to artistically process their on-chain data and plan to organize an offline data sculpture exhibition to showcase their works, foster interaction, and facilitate exchanges.
- Develop a set of protocols for exhibition and curation.
- Promote the creation of actual products, such as fashion and jewelry that reflect one's on-chain data.

## Inspirations (A Miscellany of Fun)

- Ethereum Universe: After attending a sci-fi lecture by Chen Qiufan, I was inspired to set the background of my work in space.
- Stretched ETH Icons Forming a Wormhole: A lyric from Luv Sic gave me the idea to stretch the icons: "How far do we have to stretch the picture before pixelating the human texture?"
- Small Fan: The heat where I have been staying recently made me constantly look at the small fan on my desk, so I want to incorporate this buddy into the

project. During a discussion with a friend about this work, he suggested, "The small fan can represent market FOMO and FUD," which I found very interesting, so I decided to include it.

- Creation of Actual Products: In a meeting with Fangting, she mentioned exhibition booths at Web3 in person conferences. This led me to think that creating products could effectively promote this concept.

Haotian Fang

Written on June 30, 2024, after the rain, with clear skies :^D