

# MARCHING CUBES

*Interactive performances and installations. Created by assembling modular units derived from a historic graphics algorithm. 3D printed polylactic acid (PLA), neodymium magnets, cold-rolled steel plate.*

In 1987, researchers at General Electric pioneered a method for generating computer graphics from medical scan data that featured an underlying language of faceted cubes. Widely adopted, “Marching Cubes: A High Resolution 3D Surface Construction Algorithm” has become a seminal visual language for virtual environments.

I wanted to make this computational procedure tangible, into something we could build with. I translated the algorithm into 3D printed construction units that allow us to act out its logic. I also created a user’s guide: input any object—a 3D scan or model—and a custom computer script outputs assembly instructions. Every *Marching Cubes* interactive performance and installation is unique; the units can make anything.

I build the assemblies in collaboration with my audience. Together, we perform the computer’s process. To date, we’ve created assemblies that explore architectural, anthropomorphic, ecological, and art historical themes. Sometimes, we simply play: with humans doing the work, the algorithm’s strict logic is optional. By enacting a ubiquitous algorithm in the real world, this project generates dialogue about how information technologies create the building blocks of contemporary culture.

The pages that follow document the expressive possibilities of *Marching Cubes*.

[jessecolinjackson.com/portfolio/marching-cubes](http://jessecolinjackson.com/portfolio/marching-cubes)

MC\_2025\_10\_GPG2



*Marching Cubes TV Buddha*  
Great Park Gallery, Irvine, California, USA. October 26 – December 28, 2025. Installation.





### DOWN FROM SCORE



curators  
David Familian

artists  
David Bowen  
John Cage  
Guillermo Galindo  
Sean Griffin  
Frederick Hertzog  
Loren Hirschman  
Kenneth Knowlton  
Jean Pierre Rabat  
Charles Haverstick  
Harold Kanawitz

Alison Knowles  
Ted LeWitt  
Robert Longo  
Hermann  
Maurice  
Vera N.  
Frank  
Gary  
Janet  
Shirley



These three have shared what work around identity has inspired them to create their own. Together they have created a space of work as a way to explore the complex and often contradictory nature of identity and the ways in which it is constructed and deconstructed.




### MUSIC INTO DATA:: DATA INTO MUSIC



curators  
David Familian

artists  
David Familian

### VARIATIONS



curators  
David Familian

artists  
David Familian

### COMPUTER POETICS

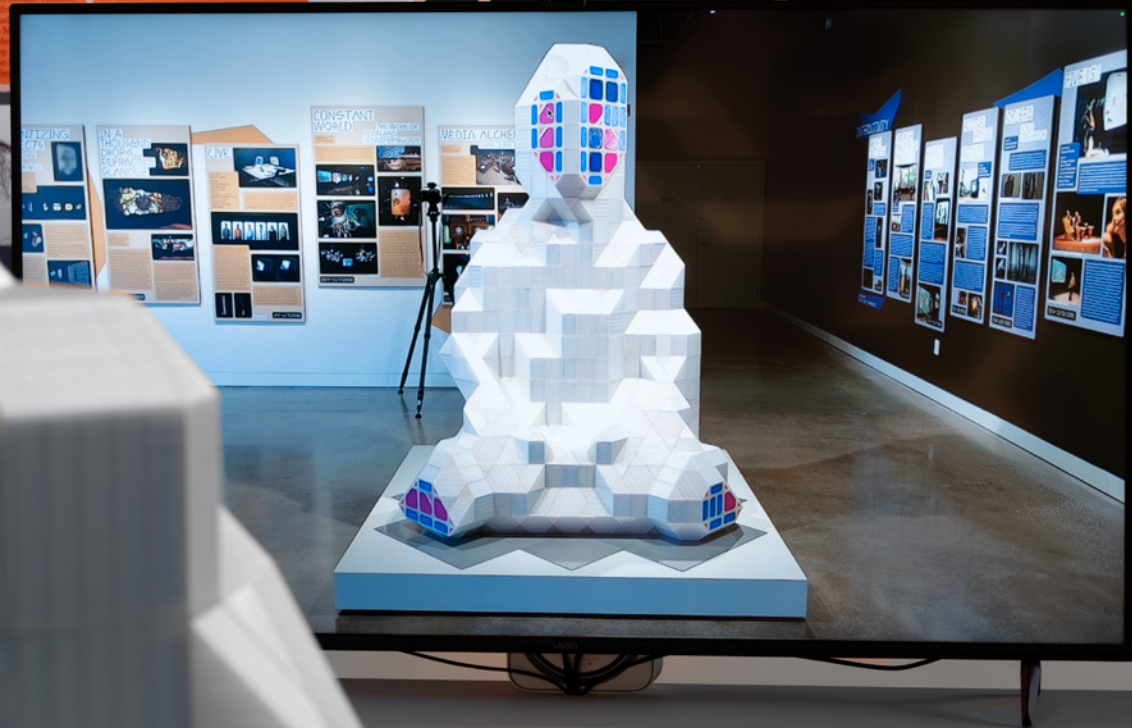
curators  
David Familian and Hannah R. Hays

artists  
Eric Anderson  
Christian Bök  
John Cage  
Conrad A. Lutz  
George Brecht  
Mary Flanagan  
Paul Frazier  
Tiffany Pank  
Kenneth Goldsmith

curators  
David Familian

artists  
David Familian

Oct. 1, 2022 - Jan. 14



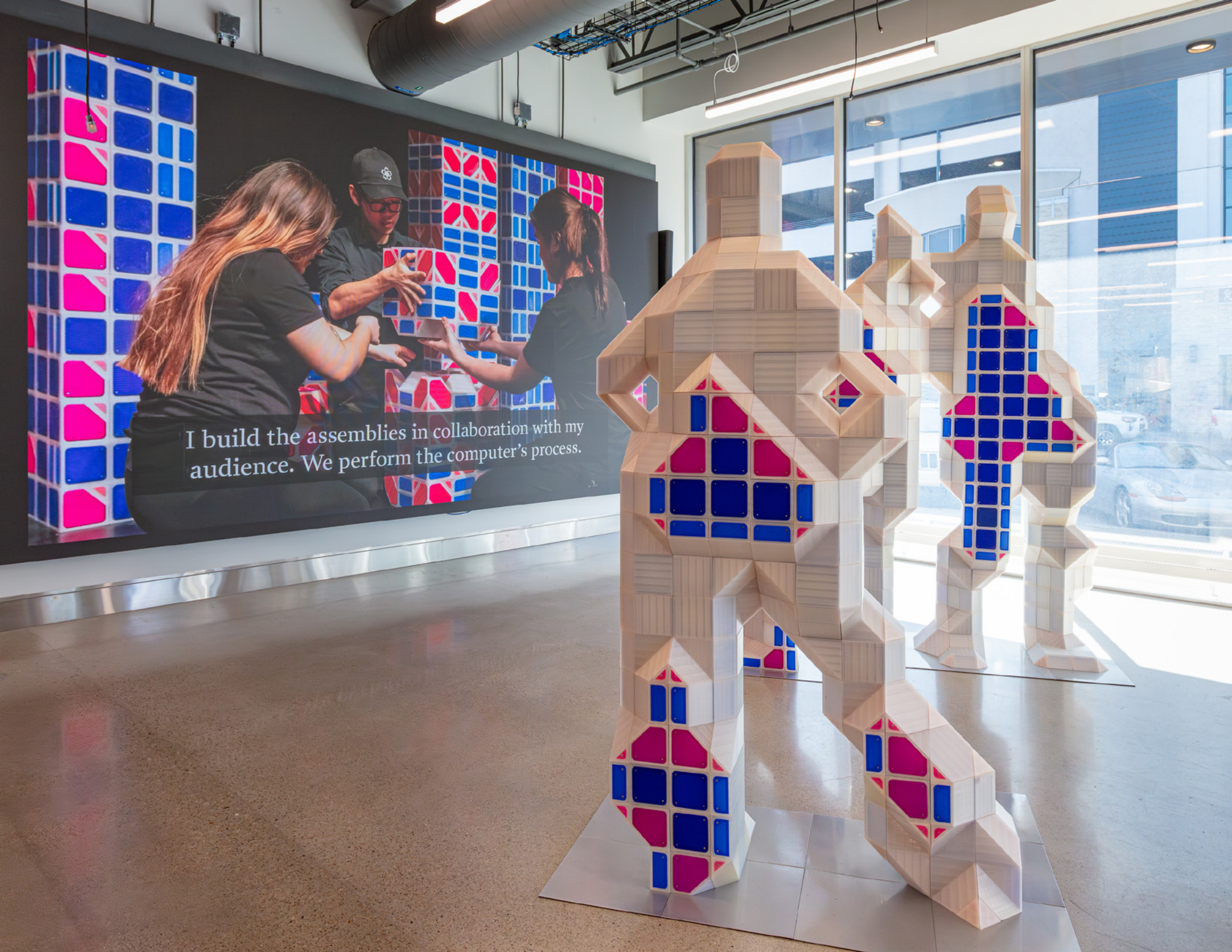


MC\_2023\_09\_NE



*Marching Cubes Carson Center (Aaron, Hannah, Mason, Sophie and Evie)*  
Johnny Carson Center for Emerging Media Arts, September 23 – October 20, 2023. Interactive performance and installation.





I build the assemblies in collaboration with my audience. We perform the computer's process.



# MC\_2022\_01\_XMPL3



*Marching Cubes Final Countdown*

Experimental Media Performance Lab, Irvine, USA. February 12 – 15, 2022. Interactive performance.







MC\_2020\_12\_GPG



*Marching Cubes Watershed #2: Santa Ana*  
Great Park Gallery, Irvine, California, USA. December 6, 2020 – March 14, 2021. Installation.





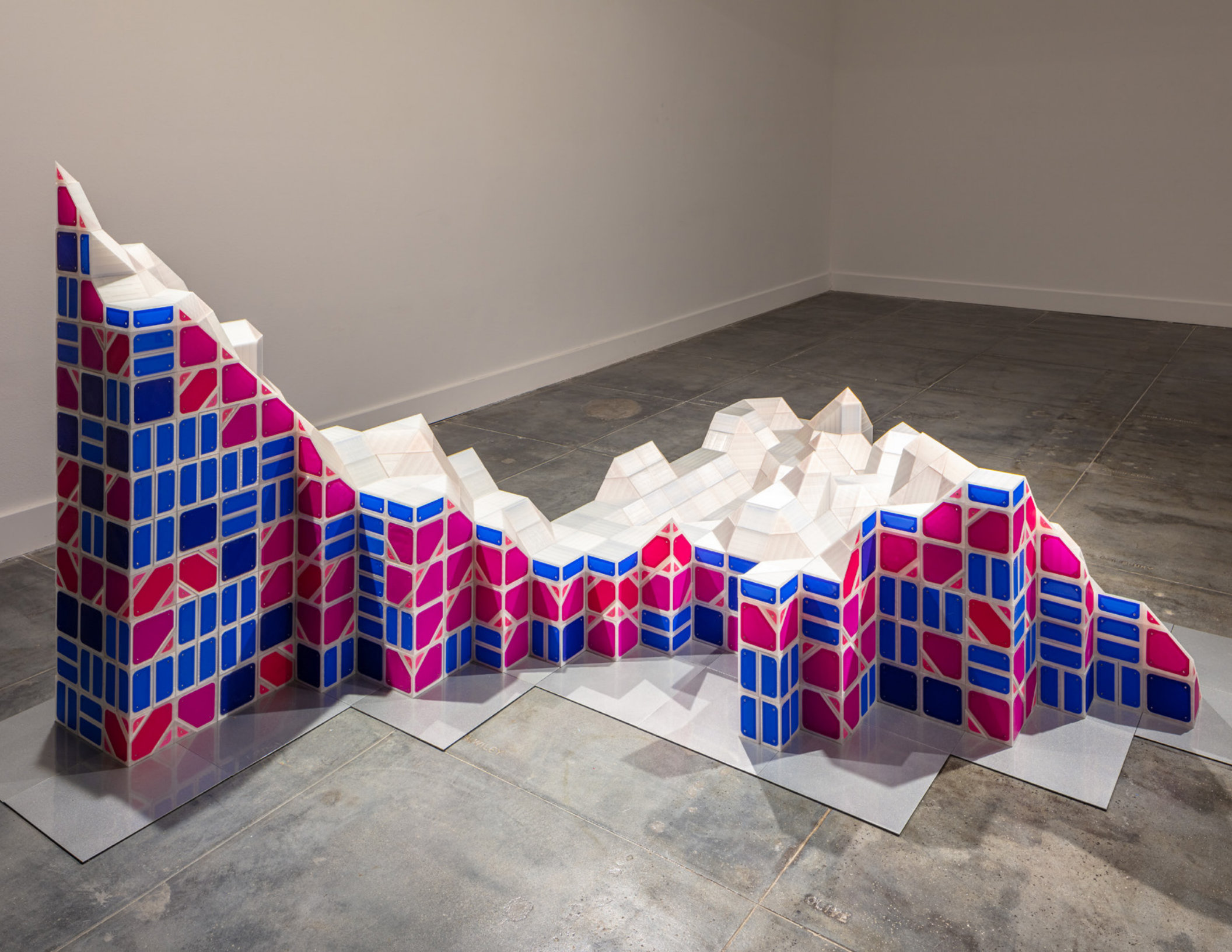


MC\_2020\_01\_LB



*Marching Cubes Watershed #1: Laguna Beach, After Haliburton, 1936 (If I Had a Million Dollars, I Wouldn't Change One Inch of It)*  
Laguna Art Museum, Laguna Beach, California, USA. January 19 – 26, 2020. Installation.







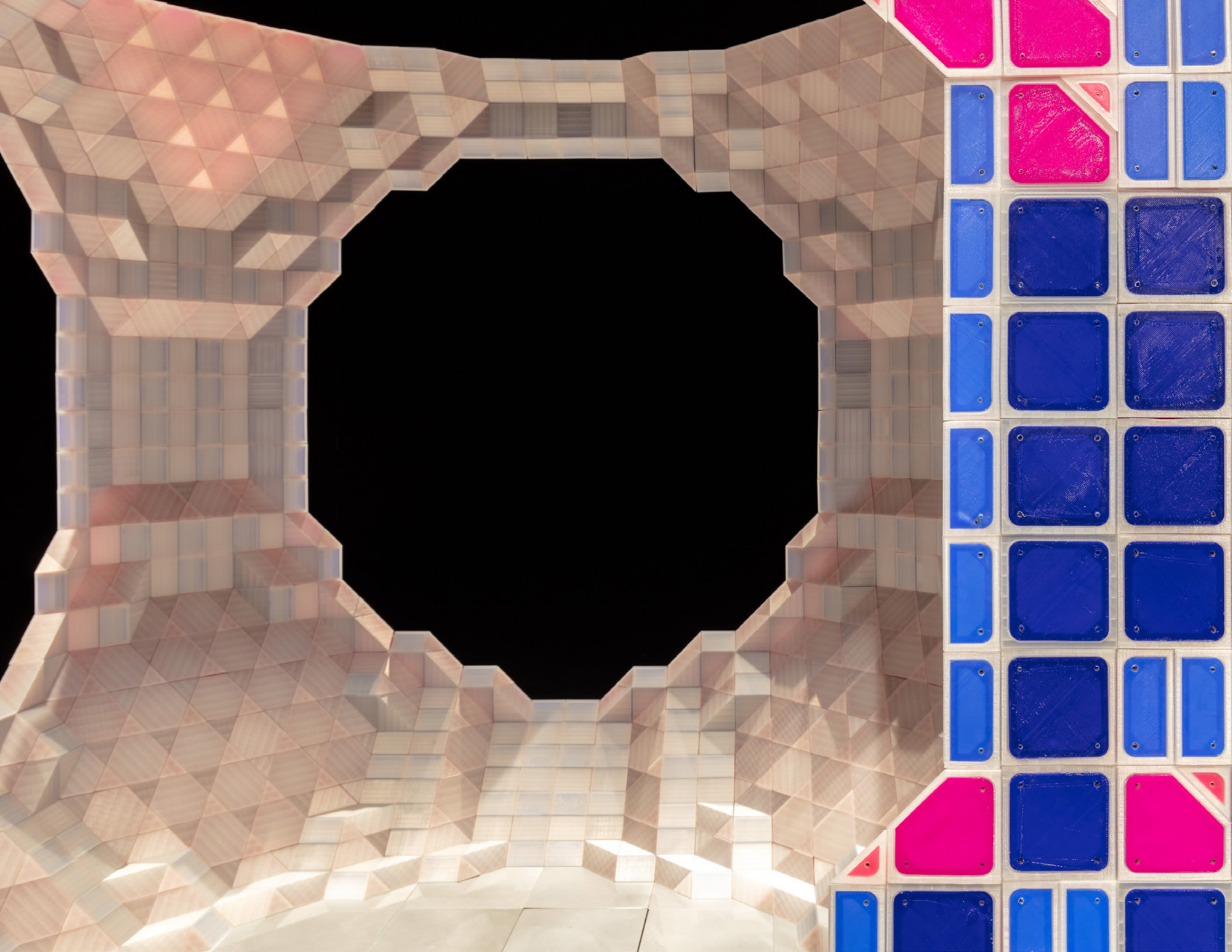
MC\_2019\_01\_XMPL2



*Marching Cubes 1728*

Experimental Media Performance Lab, Irvine, USA. January 7 – 9, 2019. Interactive performance.







MC\_2018\_11\_OCAD



*Marching Cubes: 1987*  
Open Gallery, OCAD University, Toronto, Canada. November 15 – 18, 2018. Installation.







MC\_2018\_04\_SJC



*Marching Cubes: Daughter of Boris*  
Alisa and William Reising Gallery, San Juan Capistrano, USA. March 26-29, 2018. Interactive performance.







MC\_2018\_03\_SE



*Marching Cubes: Son of Boris*  
Kulturhuset Stadsteatern, Stockholm, Sweden. March 20, 2018. Interactive performance.







MC\_2017\_05\_IR



*Marching Cubes Assembly #28 (Gravity-Inflected Spherical Void)*  
Platform 28 for Art & Architecture, Tehran, Iran. May 19 – June 9, 2017. Installation.







MC\_2017\_04\_VAN



*Marching Cubes: Boris*  
Patkau Project Space, Vancouver, Canada. April 8 – 10, 2017. Interactive performance.







MC\_2017\_01\_NYC



*Marching Cubes Assembly #18 (After Bunshaft)*

Arts Brookfield Grace Building, New York City, USA. January 17 – March 10, 2017. Installation.







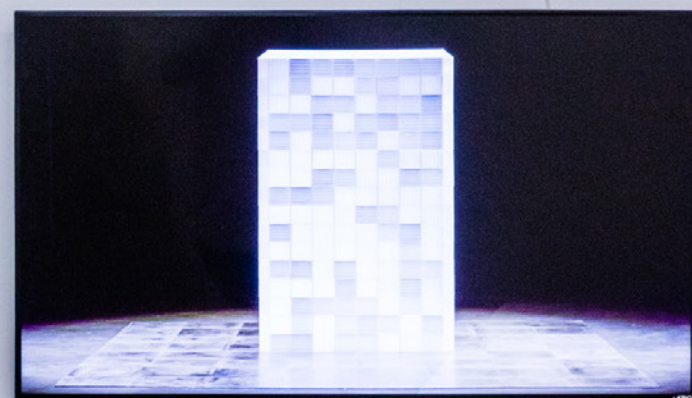
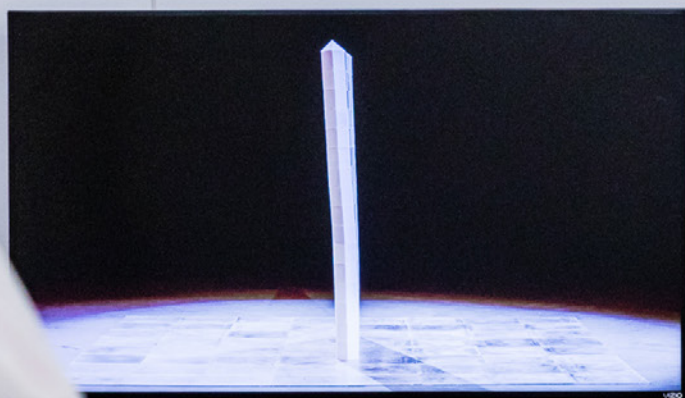
MC\_2016\_11\_PNG



*Marching Cubes*

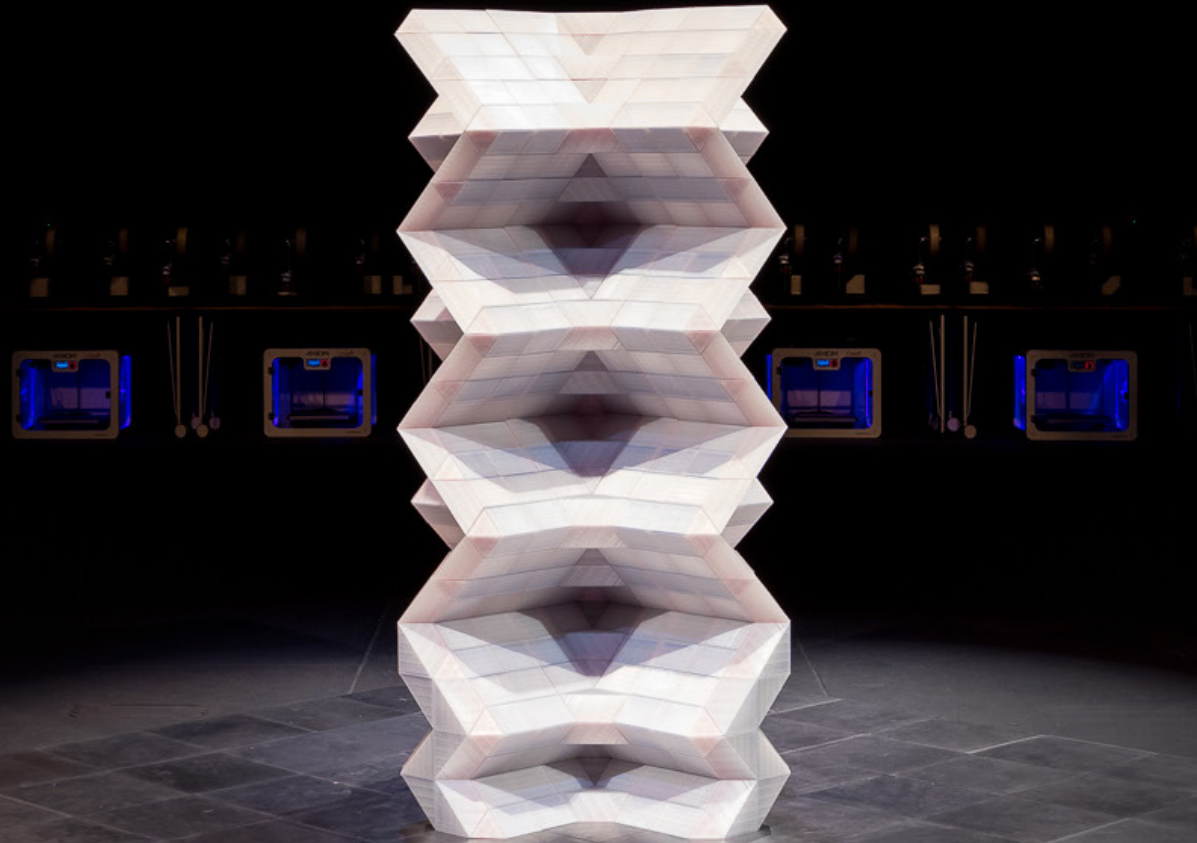
Pari Nadimi Gallery, Toronto, Canada. November 17, 2016 – January 14, 2017. Installation.







# MC\_2016\_10\_XMPL1



*Marching Cubes*

Experimental Media Performance Lab, Irvine, USA. October 20 – 22, 2016. Interactive performance.



