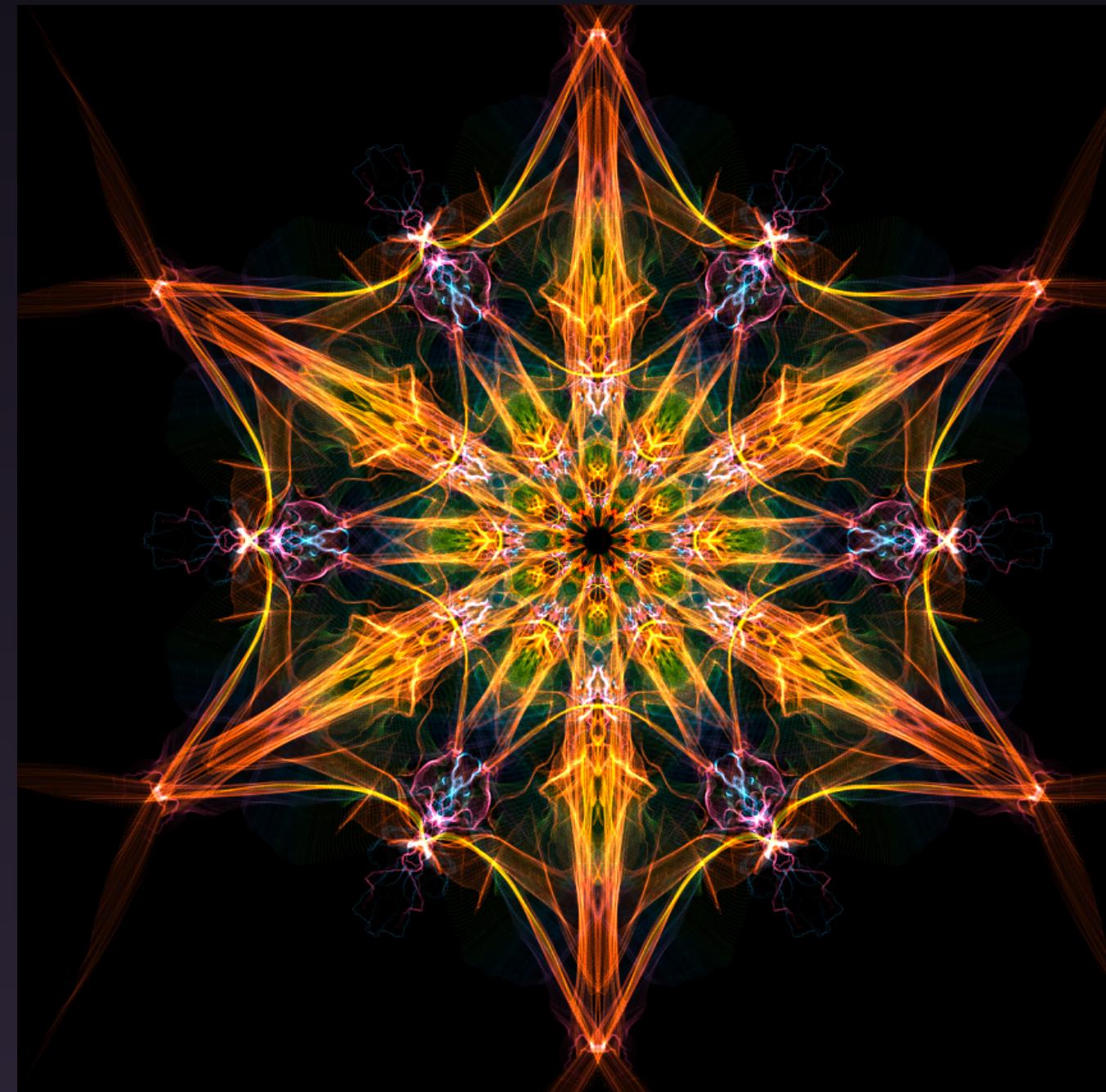
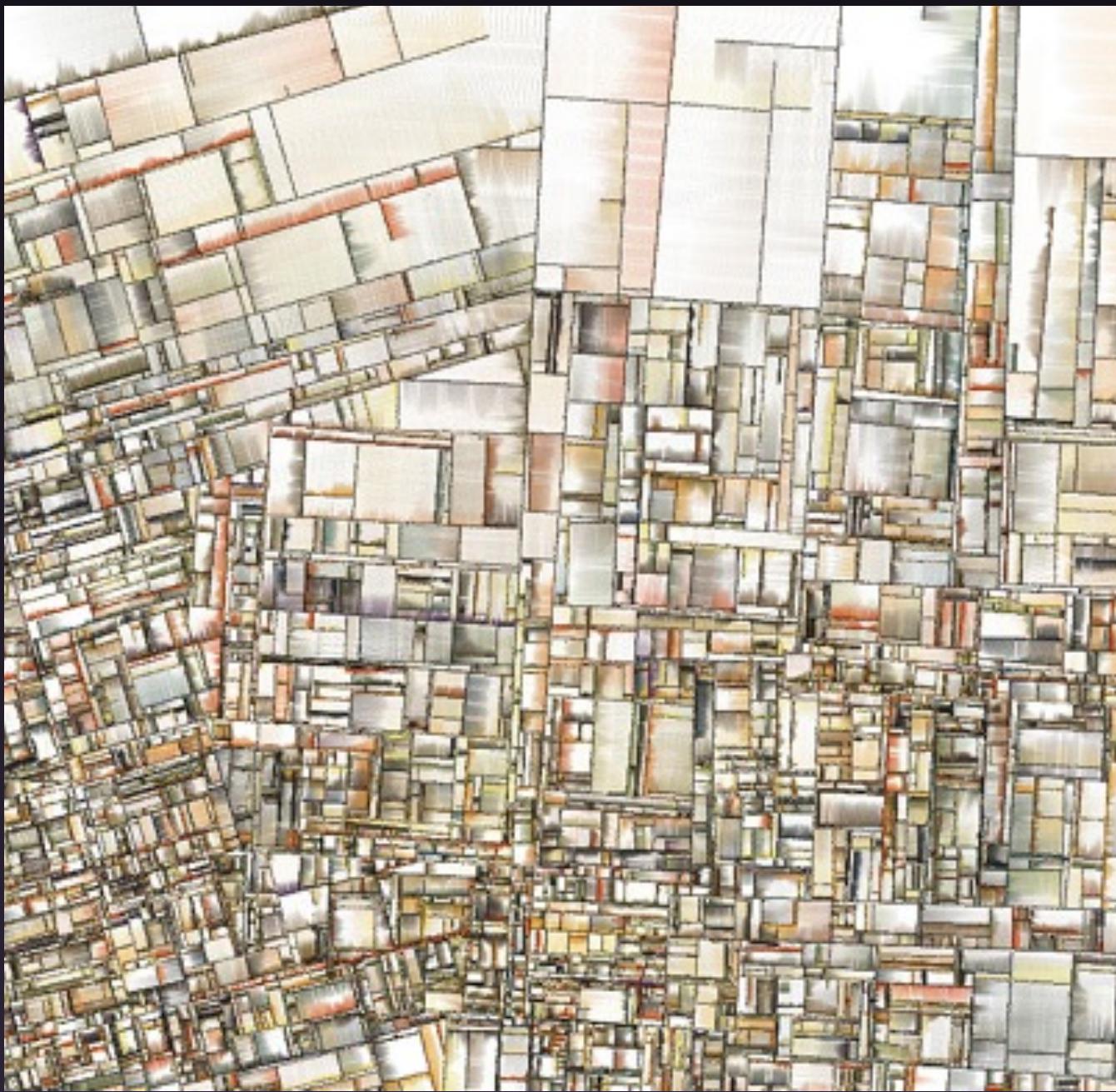


Generative Art in Julia

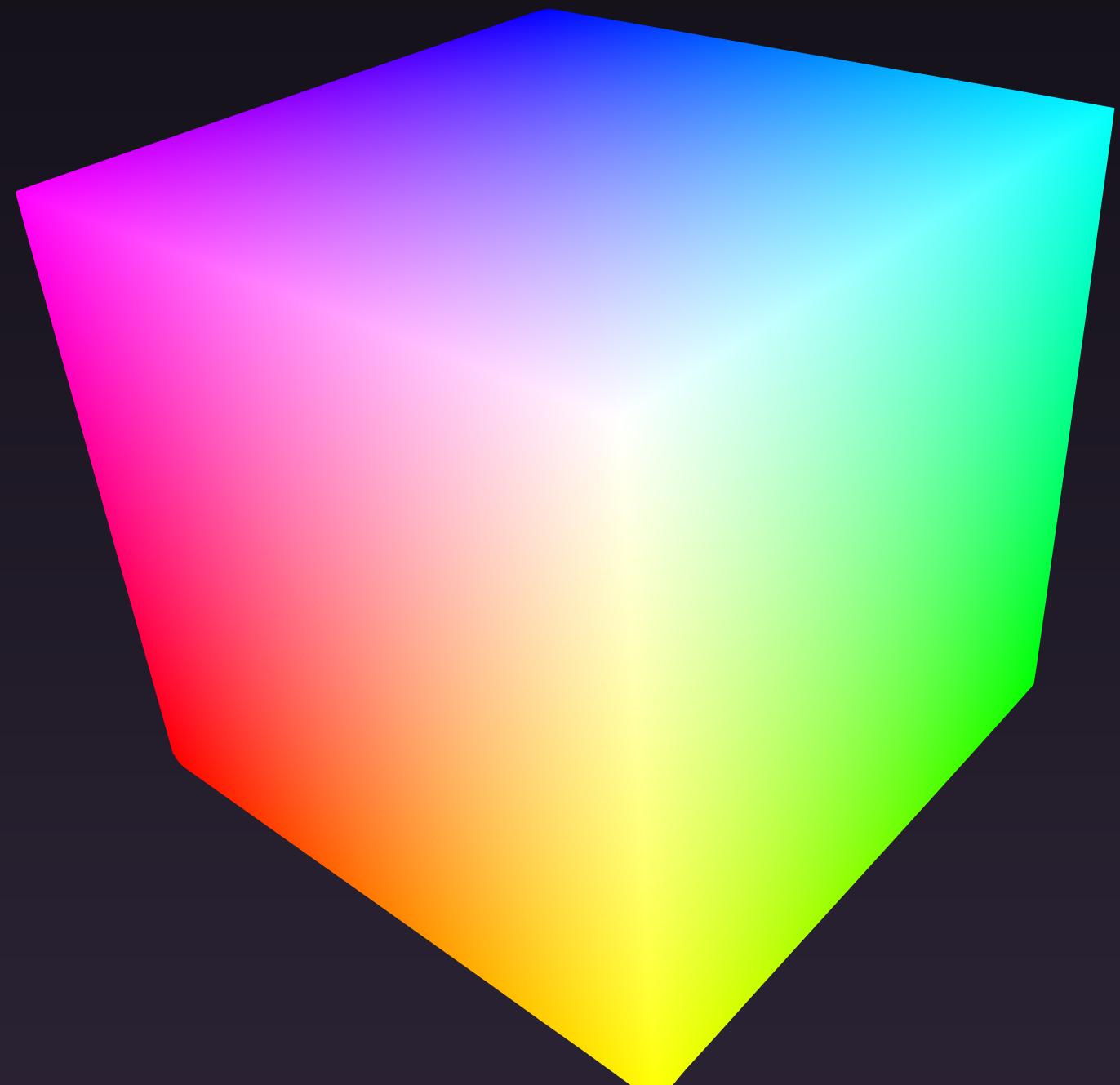
Generative Art

Making pretty pictures with algorithms



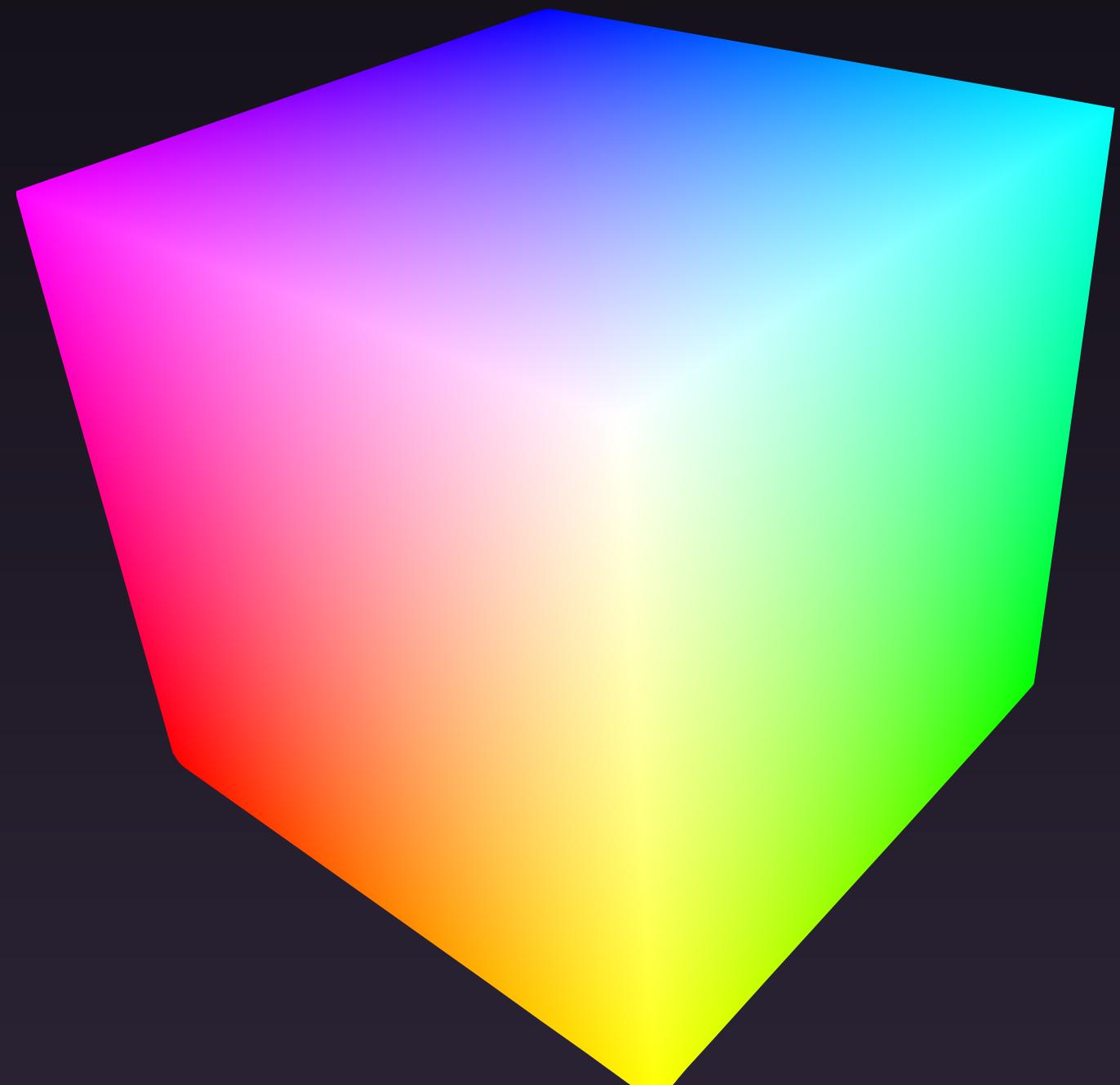
Question

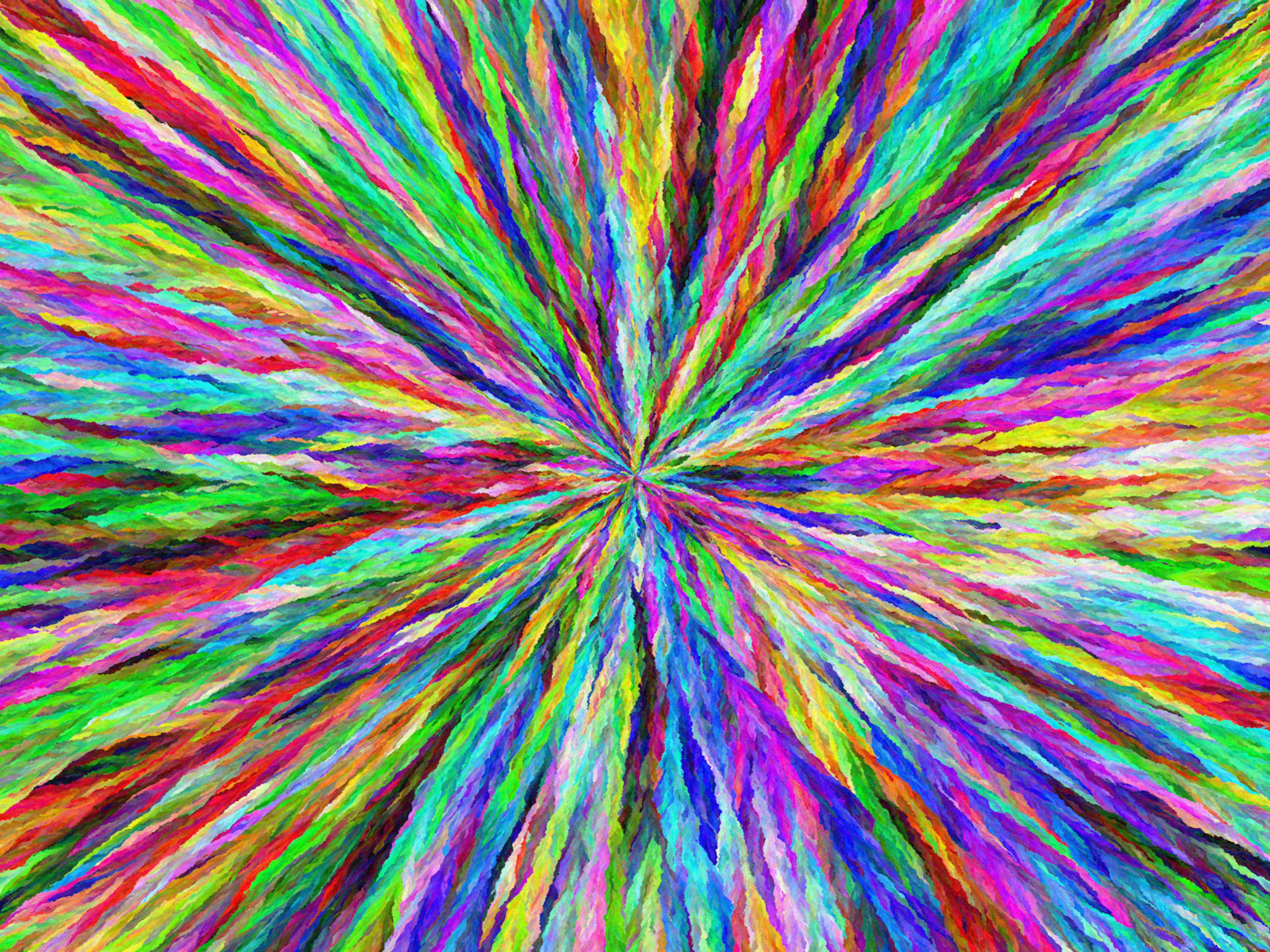
Imagine you have all of the representable colors on the RGB color cube...



Question

What if you made a picture that used each color once and once only?





How Does it Work?

1. Start with one color on the canvas, and the rest in a list.
2. Place colors one-by-one, putting similar colors next to each other.

(TODO: Illustrate)

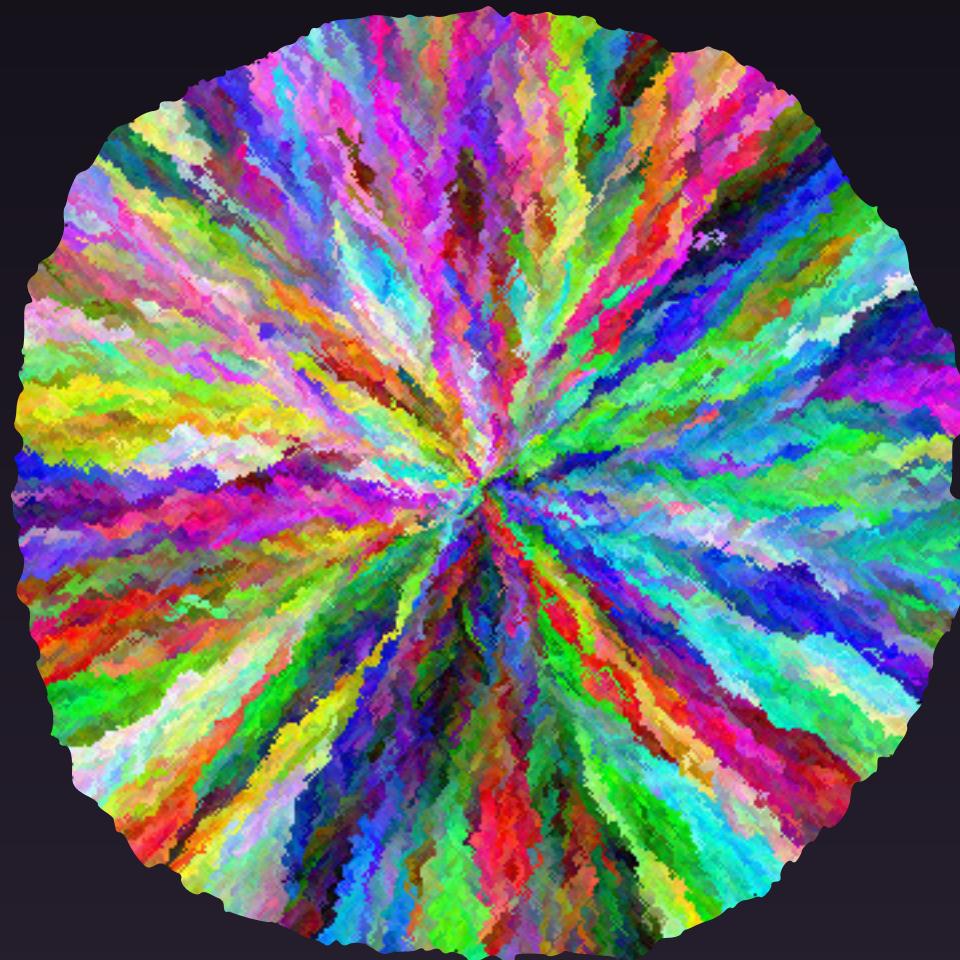






A Little from the Technical Side

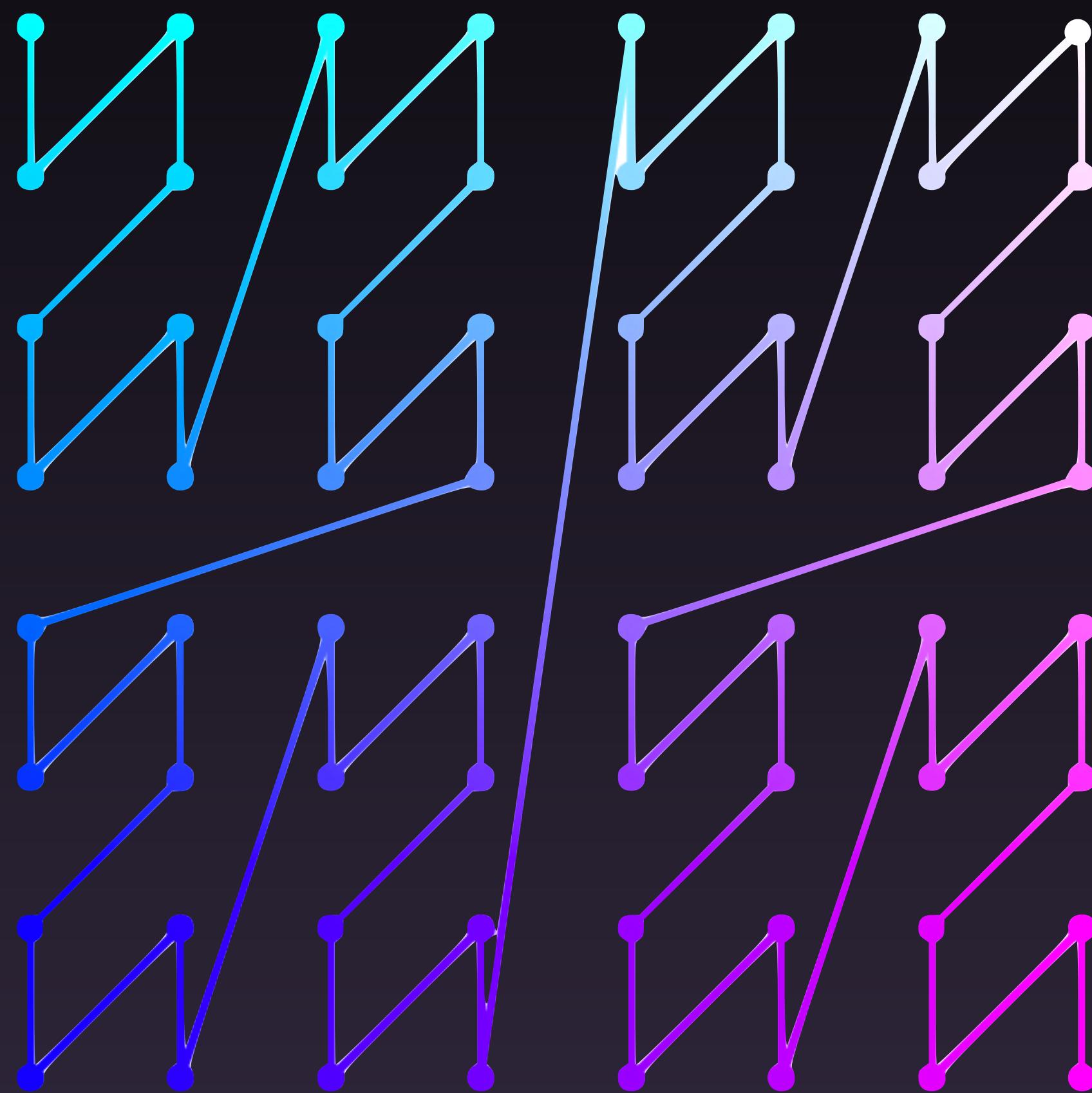
Lots of pixels, not enough time!



Placing a pixel is slow: $O(\text{size of frontier})$

Open Source

1. A Julia implementation of efficient nearest-neighbor search in low dimensions [Chan 2006]



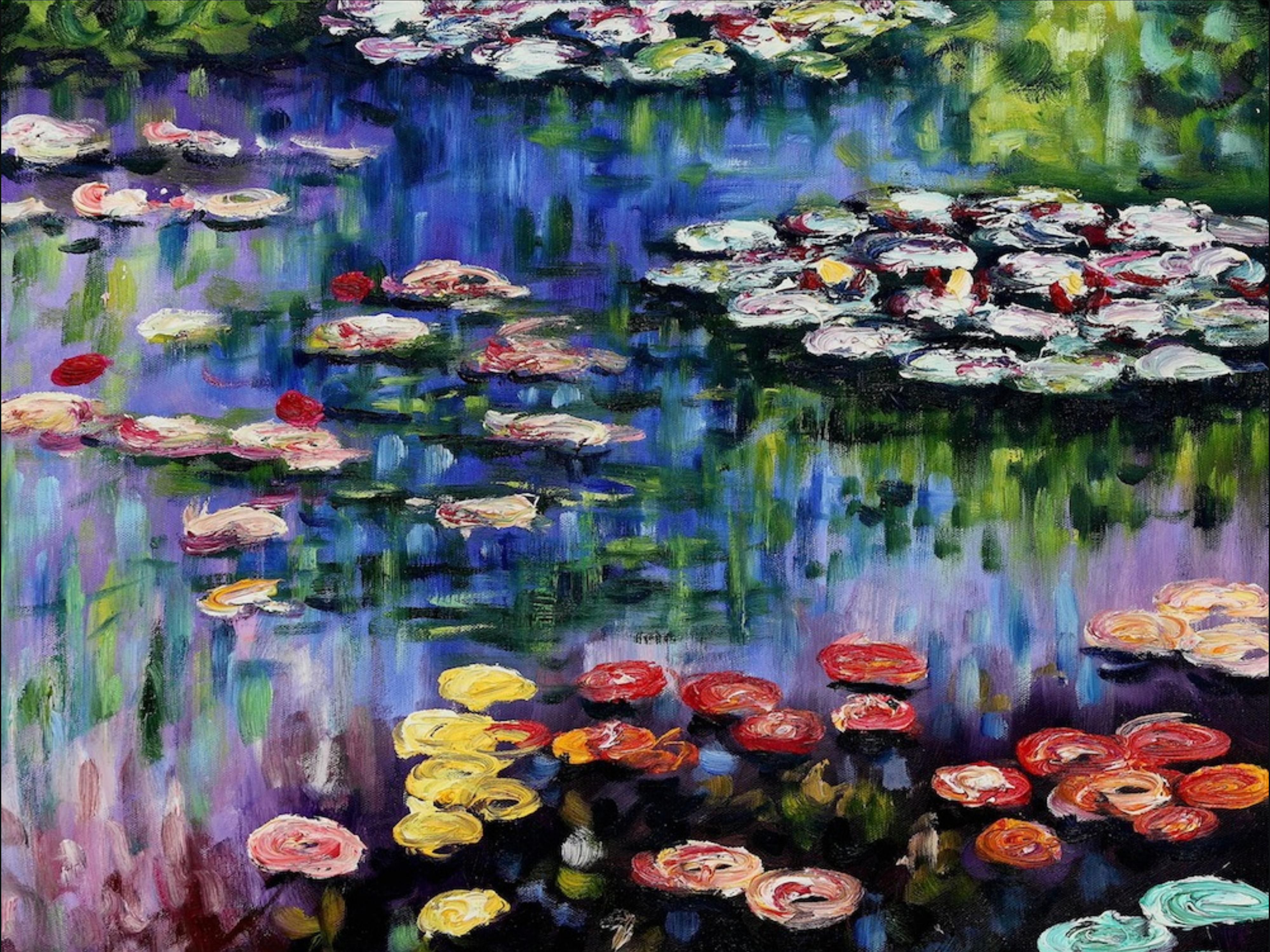
Open Source

2. An implementation of a treap (Tree + Heap)

Can maintain a sorted list with efficient search, insertion,
and deletion

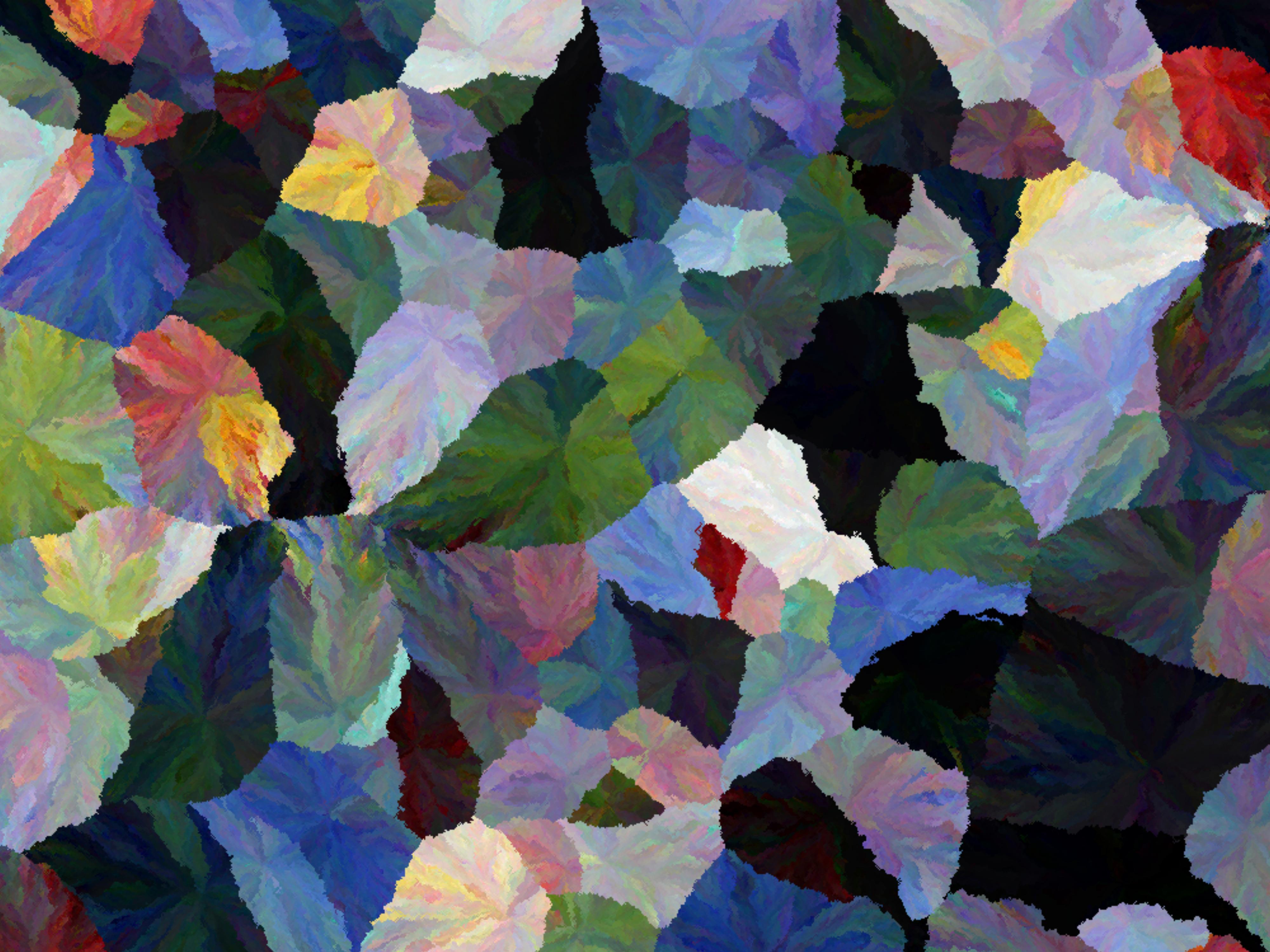
Open Source

3. A minimal OpenGL example along with a toolkit of useful OpenGL tools





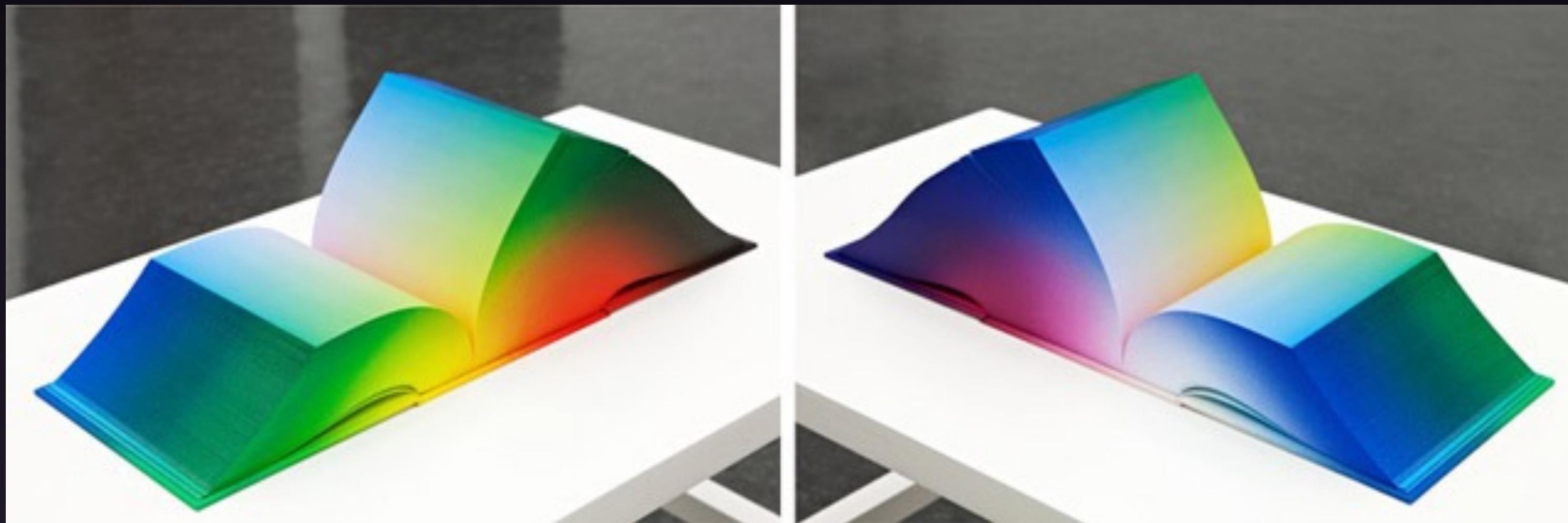






Live Demo

Further Reading



Tauba Auerbach's RGB Colorspace Atlas

Thanks!