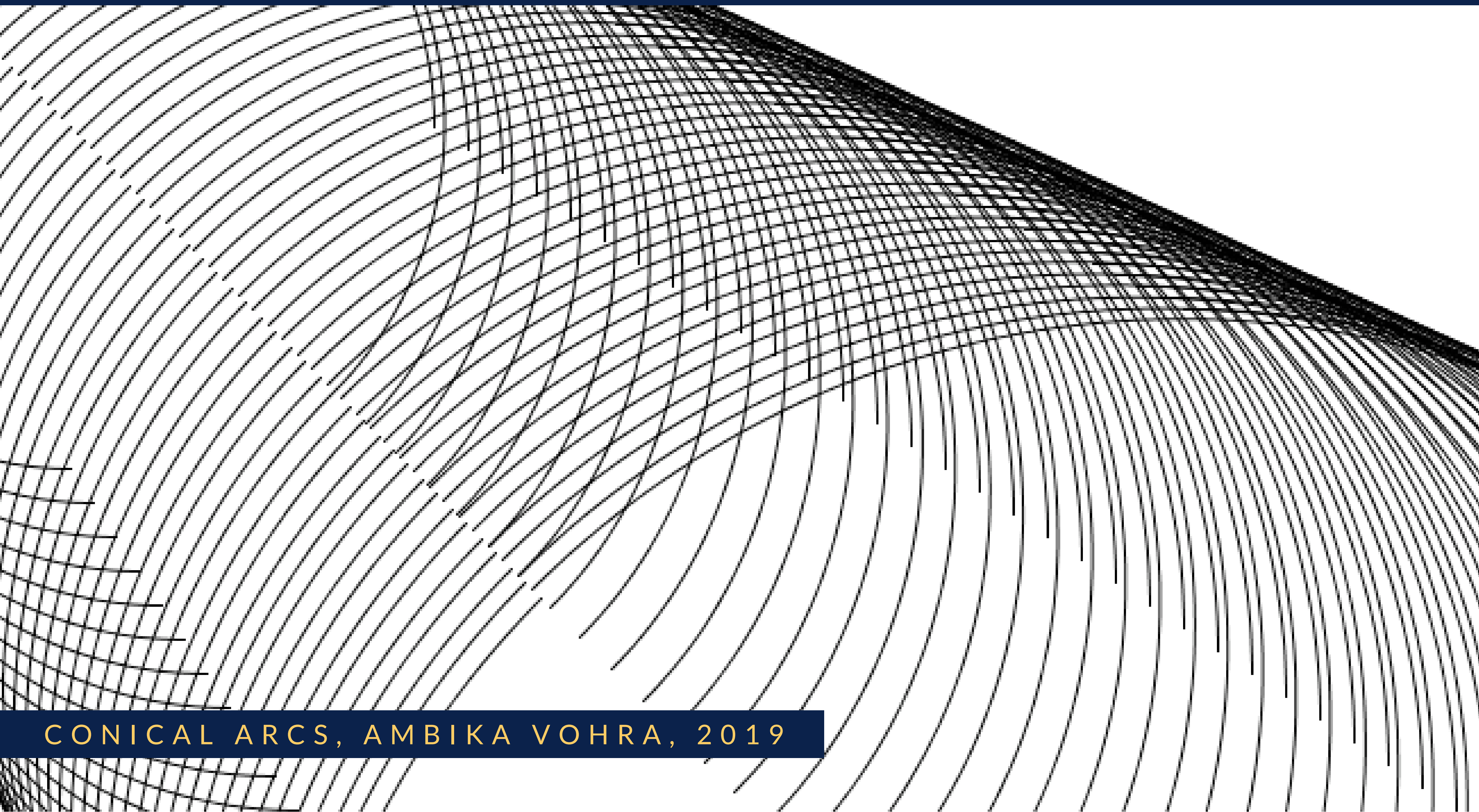




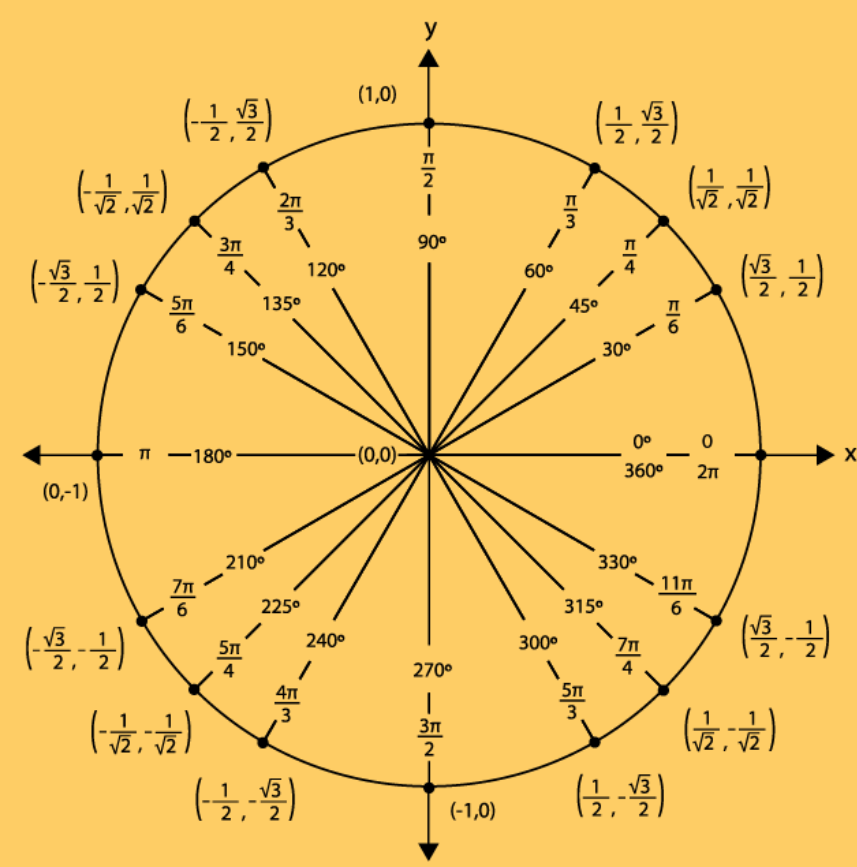
EXPLORING GENERATIVE ART

Using visual coding to generate patterns and illustrations



```
for (int i = 0; i < 50; i = i+1)
{
  noFill();
  arc(x1, y1, x2, x2, HALF_PI, PI);
  arc(x1, y1, x2+10, x2+10, PI, PI+QUARTER_PI);
  arc(x1, y1, x2+20, x2+20, PI+QUARTER_PI, TWO_PI);
  arc(x1, y1, x2+30, x2+30, PI+HALF_PI, TWO_PI+QUARTER_PI);
  x1 = x1 + 10;
  y1 = y1 + 10;
  x2 = x2 + 10;
}
```

A snippet of code that rotates an arc to create a cone shape shown above.



GENERATIVE ART

Generative art refers to art that in whole or in part has been created with the use of an autonomous system, as a bridge between art and science. In my piece *Conical Arcs* (left), I wrote an algorithm that is based on traversing the unit circle (above) using the visual coding language Processing.



CREATING MOVEMENT USING CODE

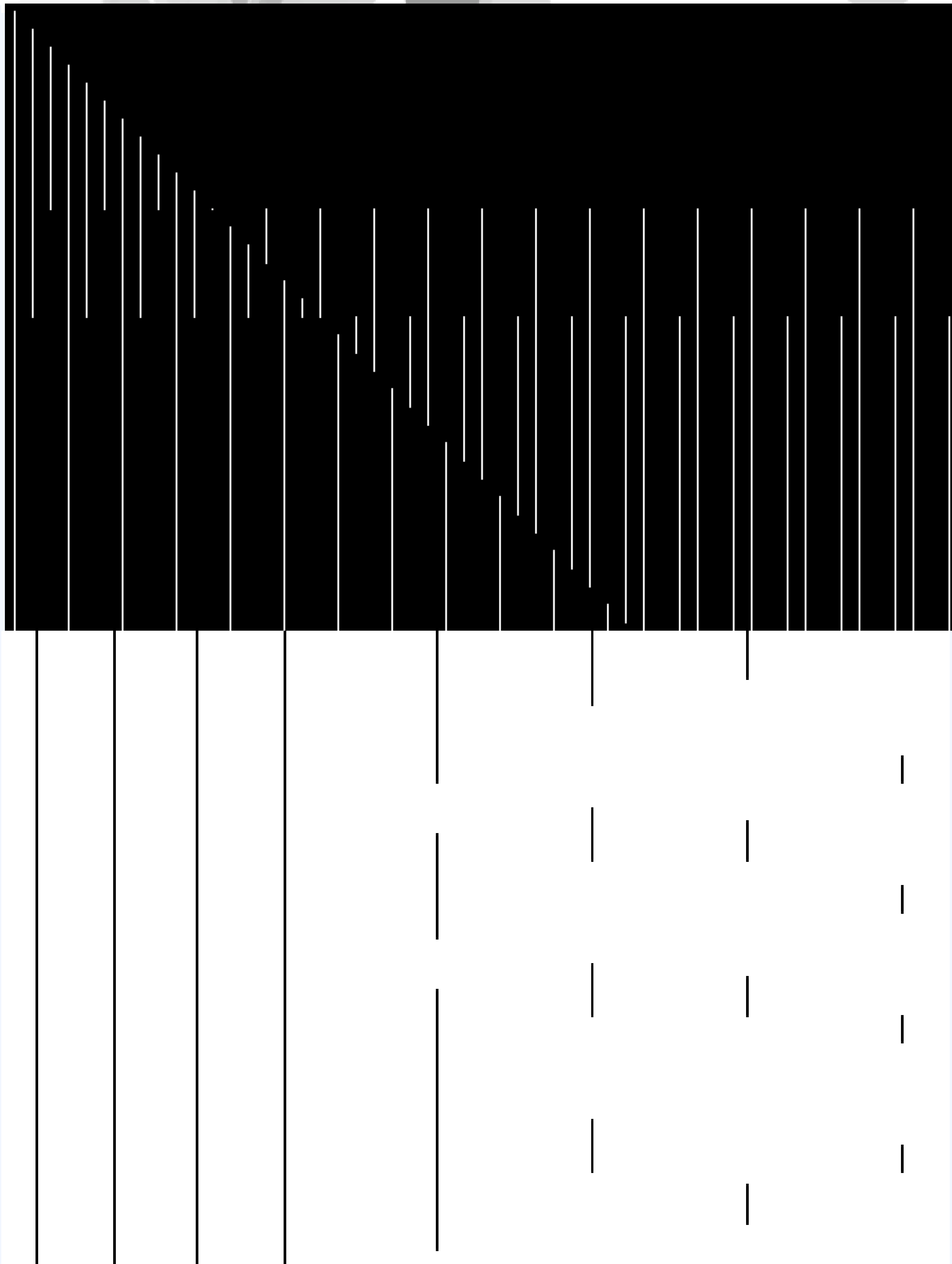
How visual coding could change art as we know it

This research began with me exploring generative art, and how computer-based algorithms can create compelling patterns. I found that algorithmic changes in opacity or length of lines can create the illusion of movement, and **unintended** code can lead to results that are happy accidents in the art realm.

I created these illustrations using **Processing**, an open source visual coding platform. The Processing community has written libraries to facilitate computer vision, data visualization, networking, 3D file exporting, etc.

Why does this matter? Code could change the way we make and view art. Today, we often view artistry as "innate," as many digital artists are using complex programs such as Adobe Illustrator, and generating shapes by hand. However, creative coding can create these patterns and even add a degree of randomness using the "random" function that humans cannot imitate by themselves.

These sorts of abilities encourage an overlap in utilizing both disciplines to further both fields of study, making both art and coding more accessible to all.



A few of my explorations in Processing.