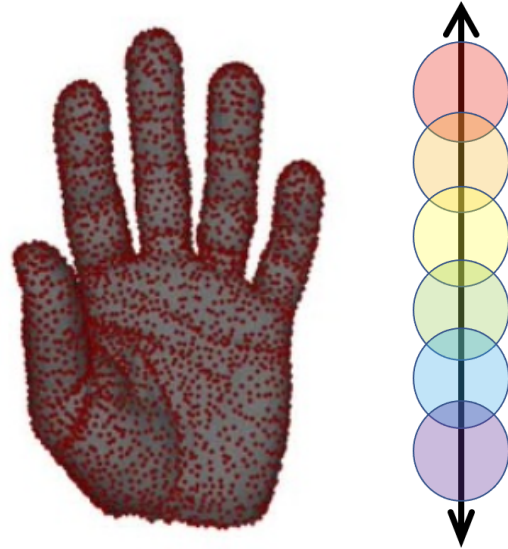# Mapper

While working in a group make sure you:

- Expect to make mistakes but be sure to reflect/learn from them!
- Are civil and are aware of your impact on others.
- Assume and engage with the strongest argument while assuming best intent.

1. Consider the hand shown below, as a topological space, X whose topology is inherited from $\mathbb{R}^3$. Define $f : X \to \mathbb{R}^1$ defined as $f(x, y, z) = z$. Use the (rainbow colored) open sets U_1, U_2, U_3, U_4, U_5, and U_6 below on $\mathbb{R}^1$ to use the Mapper algorithm transforming the hand into a graph.

2. Again consider the hand as a topological space, X, whose topology is inherited from $\mathbb{R}^3$. Define $g : X \to \mathbb{R}^1$ defined as $g(x, y, z) = x$. Clearly indicated the x and y axis on the pictured hand and use the Mapper algorithm to transform the hand into a graph.