α − Voronoi Diagrams

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Problem Statement: Taking inspiration from Voronoi diagrams, we want to explore the asymmetric case i.e., we define a point (P) to be α − closer to A in comparison to B if $\frac{PA}{PB} < \alpha$. Our goal is to define and find the α −Voronoi diagram of a given set of points.

Some goals of the project are given below: -

- To come up with a valid definition for α − Voronoi diagrams
- Understand the geometric properties and implications of the α − Voronoi diagram
- Come up with an algorithm to find the α − Voronoi diagram for a given set of points
- Try to find real-life applications of α − Voronoi diagrams