CS478 & CS564 – Computational Geometry

Project Proposal

Implementing Three Voronoi Diagram Computation Algorithms and Comparing Their Performance

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In this Project, we will be calculating and visualizing the Voronoi Diagram of a set of points in 2D using three different approaches. These three approaches are Randomized Incremental Algorithm, Fortune’s Algorithm and the Flipping Algorithm.

The program we will be implementing for the visualization of the Voronoi diagram will generate a set of random points in two dimensions. These points can be customizable, such as specifying number of points, using various distributions and different colors for different approaches that are used. There will be step by step visual representation of the algorithms’ process.