CS 478 Project Proposal

**Project Name:** Implementation of Two Delaunay Triangulation Algorithms and Comparing Their Performance (1 student)

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**Project Description**

The following algorithms will be used to compute a Delaunay triangulation from a set of random points on a 2D plane:

- Randomized Incremental Algorithm
- Divide-and-conquer algorithm

The program will generate a set of random points in 2D, taking various distributions as input. Then it will calculate and visualize the 2D Delaunay triangulation as graphical output. The program will allow the user to easily specify the number of points and zoom in/out, rotate and translate while viewing the triangulation. The user will be able to add/remove points from the set.

The steps of the algorithm will be visualized as the results are seen simultaneously. The program will be tested for arbitrary point sets and the performance of the implementation will be reported.