

# *Delaunay Triangulation Spanner Notes*

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## **Dobkin's Results**

The Delaunay triangulation of a set of points in the plane is a spanner with spanning ratio  $c \leq ((1 + \sqrt{5})/2)\pi \approx 5.08$ . This was proven in the paper "Delaunay Graphs Are Almost as Good as Complete Graphs" by Dobkin, Friedman, and Supowit<sup>1 2</sup>.

### *Introduction*

Let  $S$  be a set of points in the plane and  $DT(S)$  be the edges of the Delaunay triangulation of  $S$ . Let a path along the Delaunay edges be a *direct DT path*.

### *One-Sided Path: The Easy Case*

If all edges along the direct DT path between points  $a, b \in S$  are either all above or all below the line connecting  $a, b$ , we say that this is a one-sided path.

### *The Harder Case*

Blah blah blah, blah blah blah blah. Blah blah blah, blah blah blah blah. Blah blah blah, blah blah blah blah.

## **Keil's Results**

Blah blah blah, blah blah blah blah. Blah blah blah, blah blah blah blah. Blah blah blah, blah blah blah blah.

<sup>1</sup> David P. Dobkin, Steven J. Friedman, and Kenneth J. Supowit. Delaunay graphs are almost as good as complete graphs. In *Proceedings of the 28th Annual Symposium on Foundations of Computer Science*, SFCS '87, pages 20–26, Washington, DC, USA, 1987. IEEE Computer Society

<sup>2</sup> David P. Dobkin, Steven J. Friedman, and Kenneth J. Supowit. Delaunay graphs are almost as good as complete graphs. *Discrete Comput. Geom.*, 5(4):399–407, May 1990

*References*

- [1] David P. Dobkin, Steven J. Friedman, and Kenneth J. Supowit.  
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