CSE 523 – Status report

Analysis of food poisoning cases using Sibson's Natural neighbour interpolation

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Overview:

Natural-neighbor interpolation methods, such as Sibson's method, are well-known schemes for multivariate data fitting and reconstruction. Despite its many desirable properties, Sibson's method is computationally expensive and difficult to implement, especially when applied to higher-dimensional data. The main reason for both problems is the method's implementation based on a Voronoi diagram of all data points.

In this project we aim to use the Sibson's interpolation method for Natural neighbour interpolation to visualize a high dimensional data that provides a higher level analysis of sources of food poisoning.

Work done so far:

We have read multiple articles, papers and been through tutorials online. Currently we are working on creating a visualization of the Voronoi diagram which is responsive using a dummy data set. We are trying to understand how the mathematical formulas are defined and how they can be used for our project.

We are also working on possible representations as to how the end-product will look like and what features will it allow the user to view.

References:

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3. https://github.com/innolitics/natural-neighbor-interpolation
4. http://alexbeutel.com/webgl/voronoi.html
5. http://dilbert.engr.ucdavis.edu/~suku/nem/nem_intro/node3.html
6. https://en.wikipedia.org/wiki/Natural_neighbor_interpolation
7. https://en.wikipedia.org/wiki/Voronoi_diagram