

Connect the dots

Ulrich Bauer

TUM

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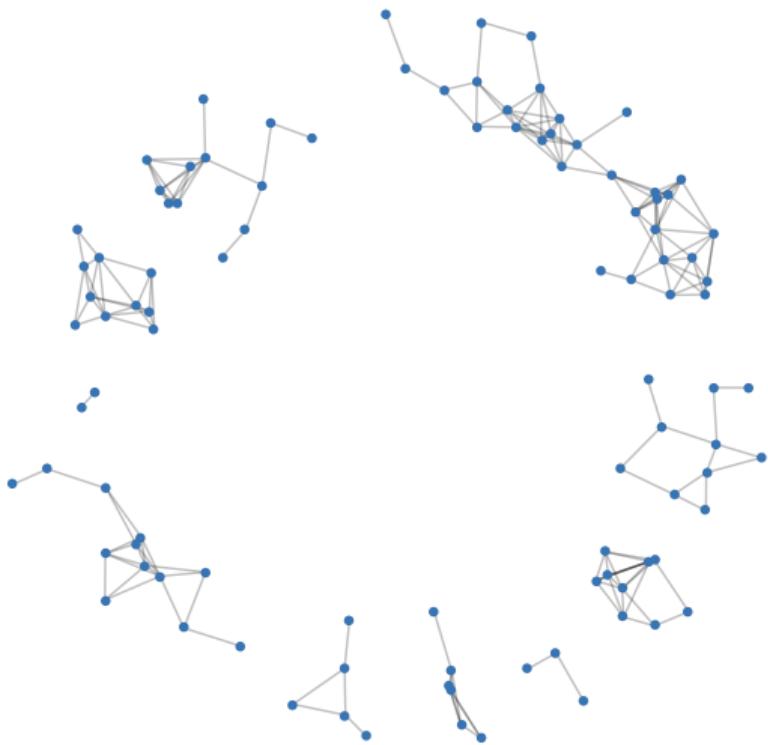


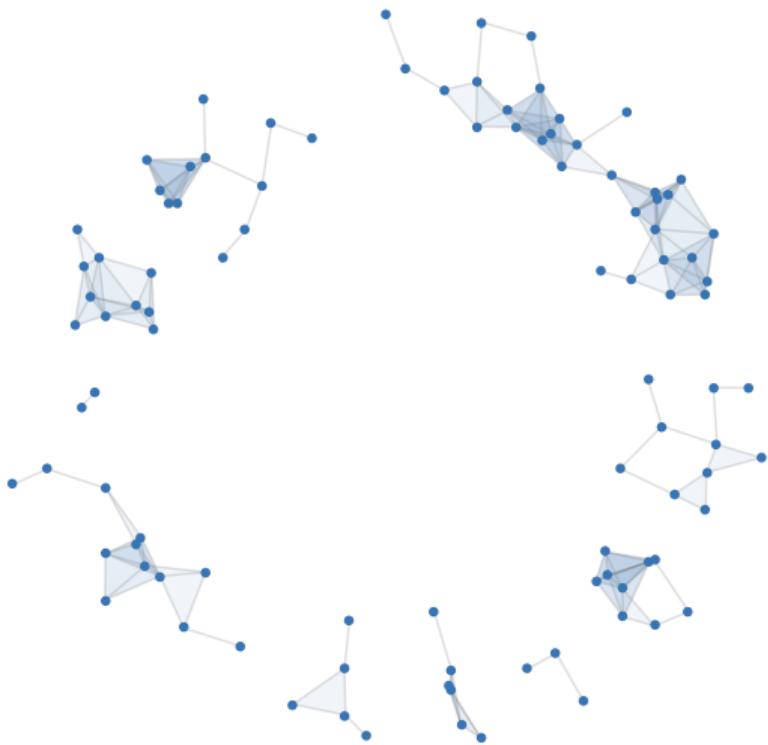
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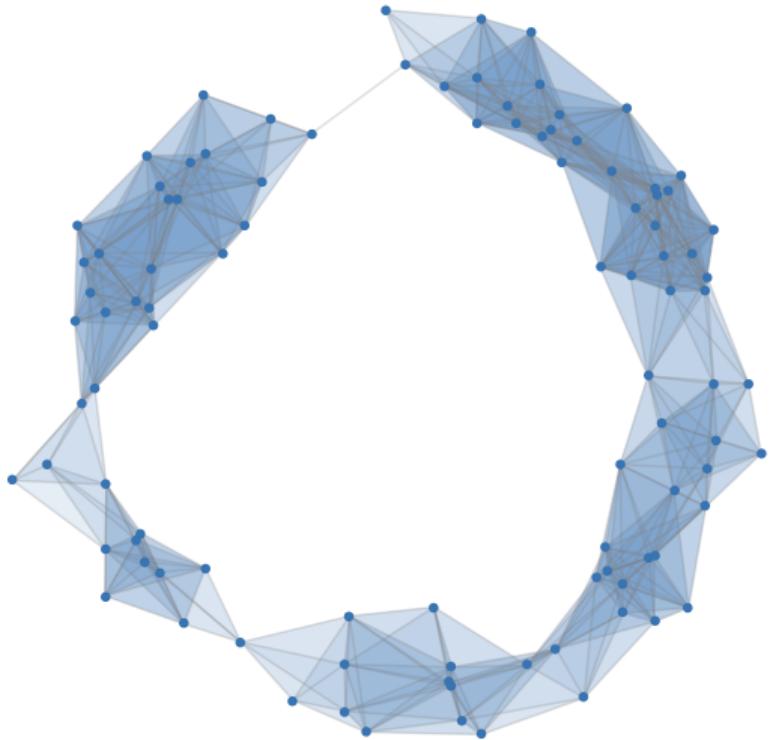


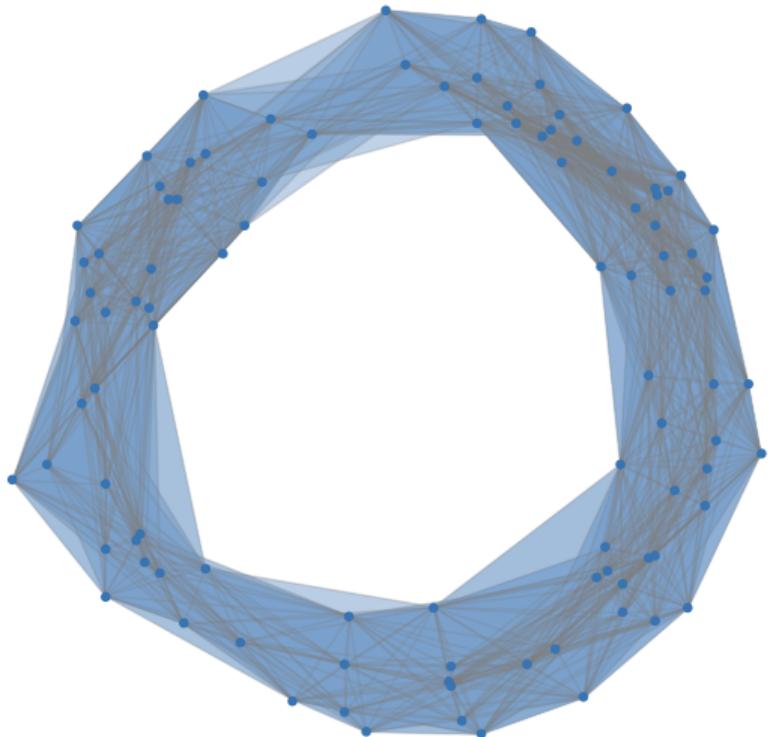
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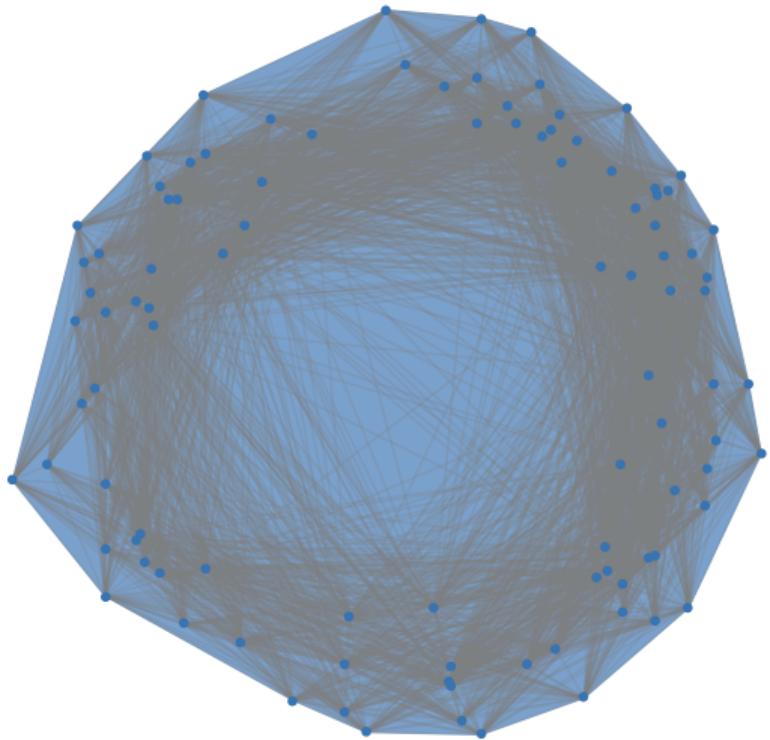


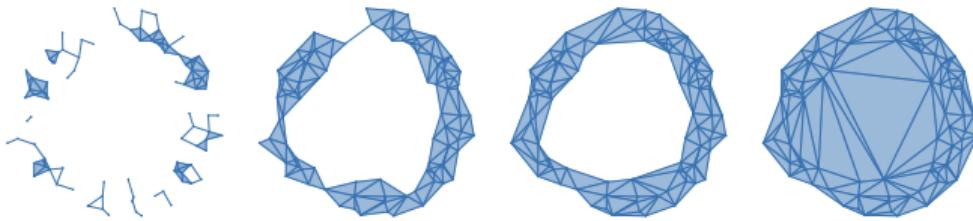


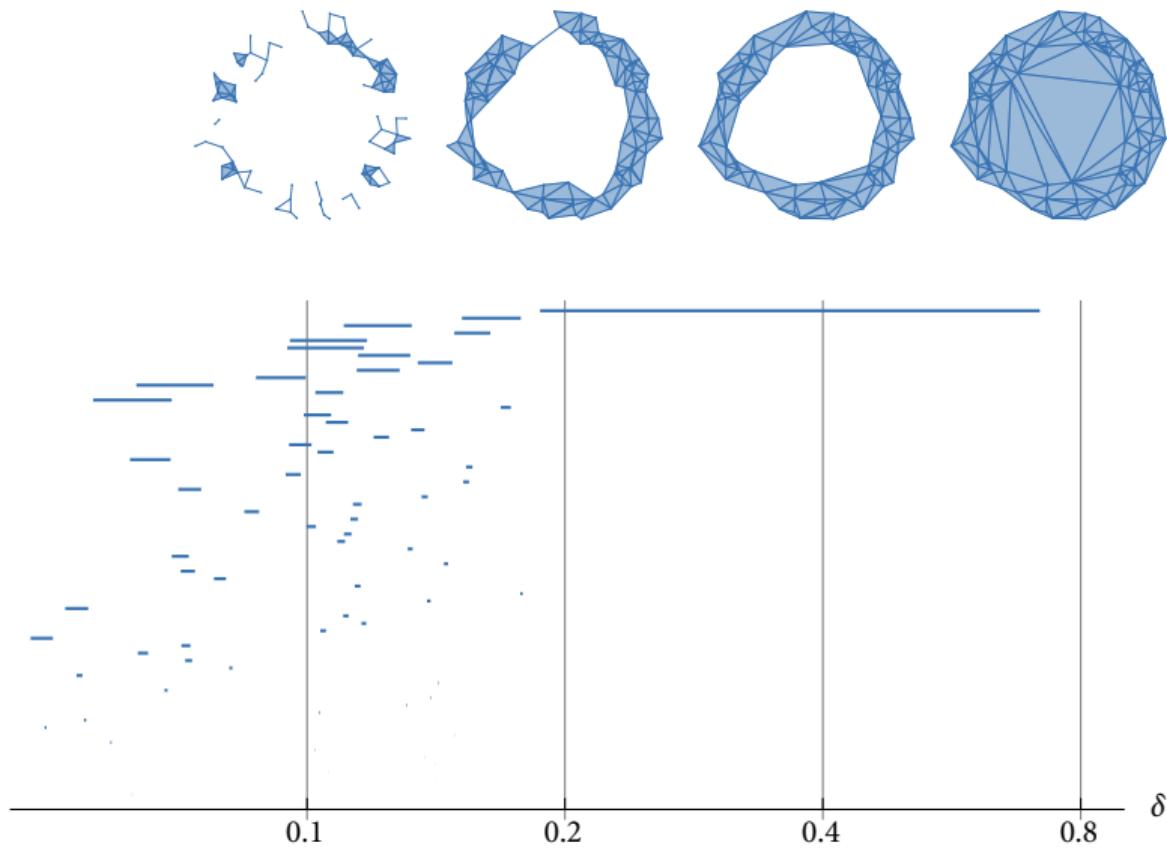


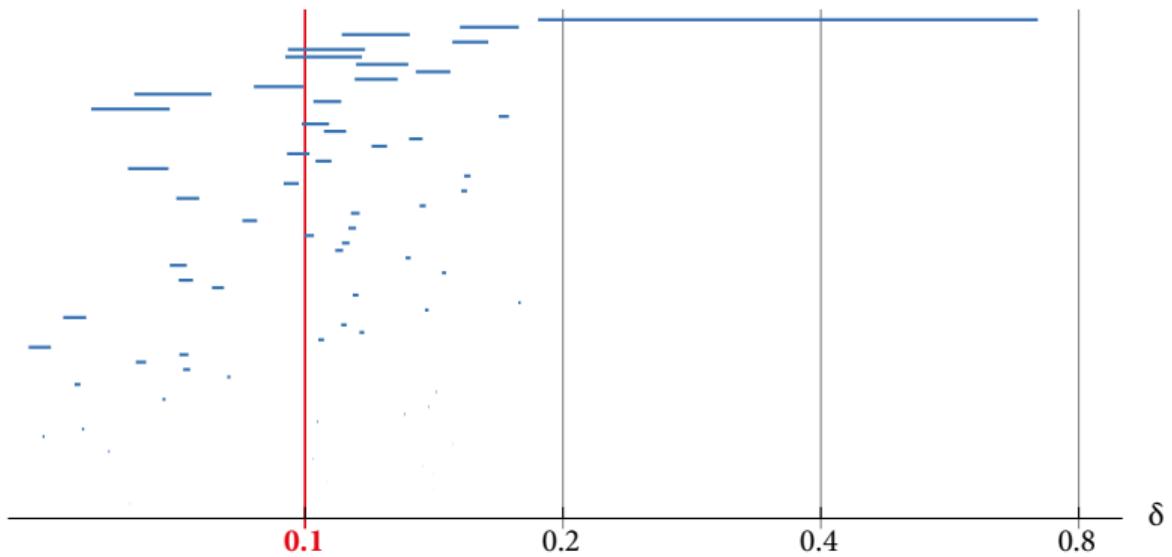
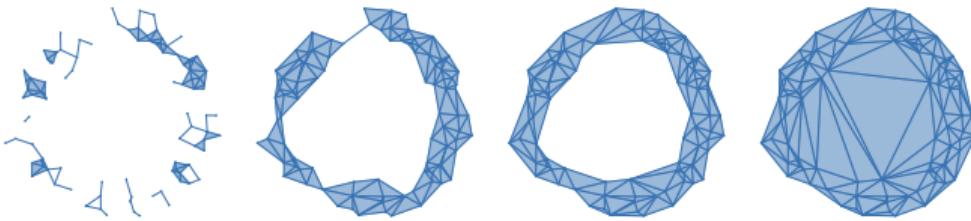


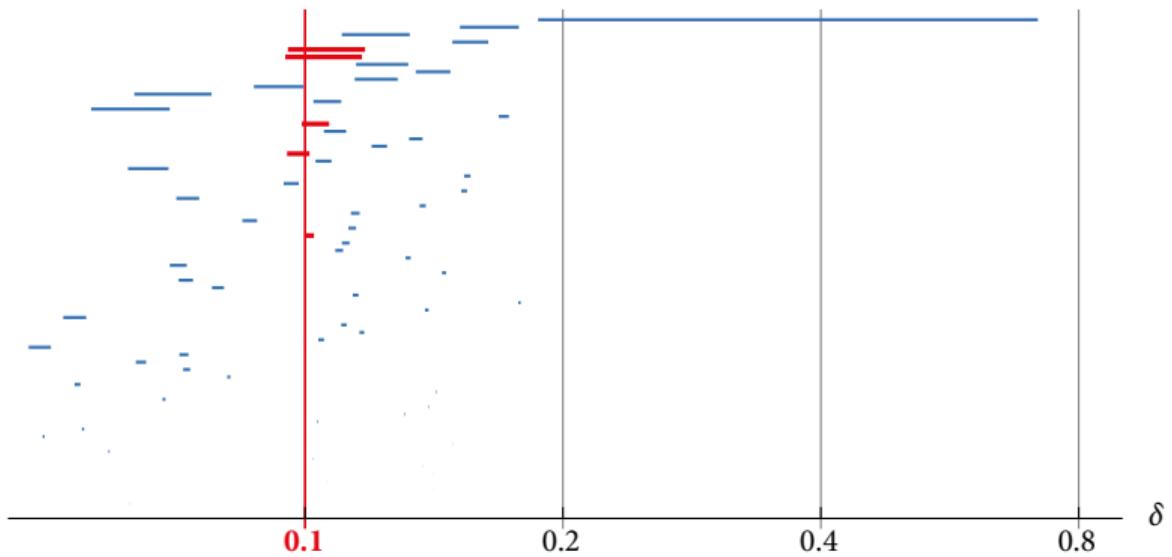
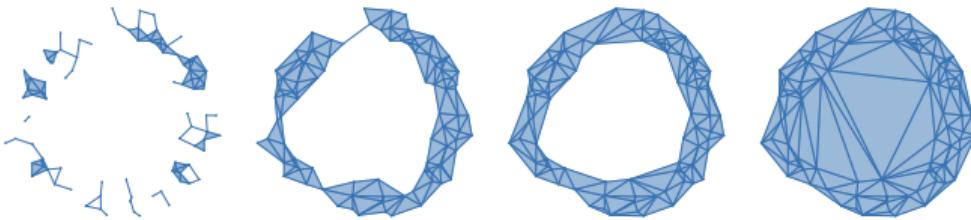


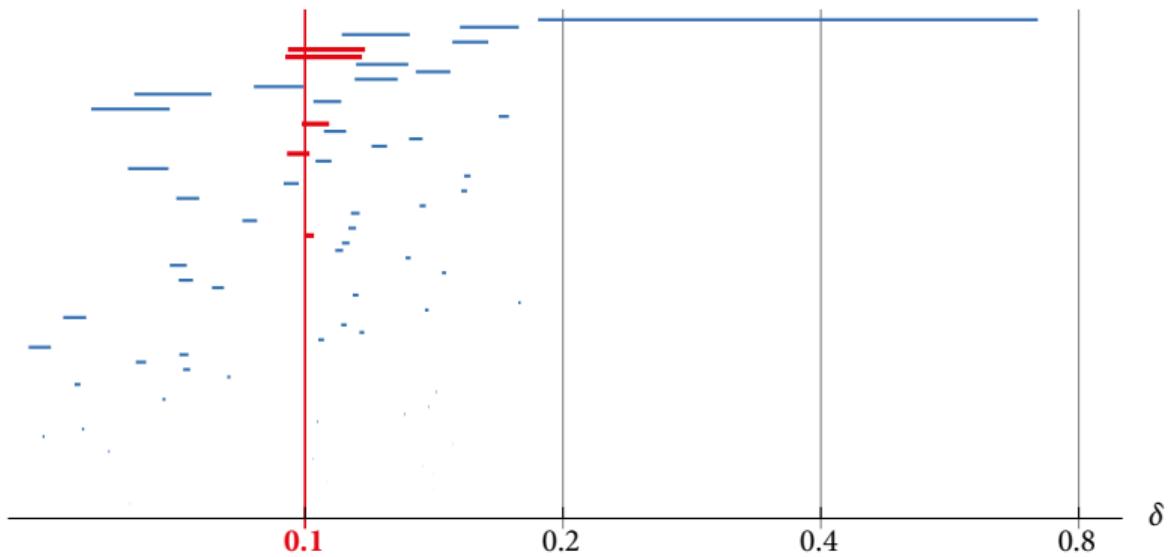
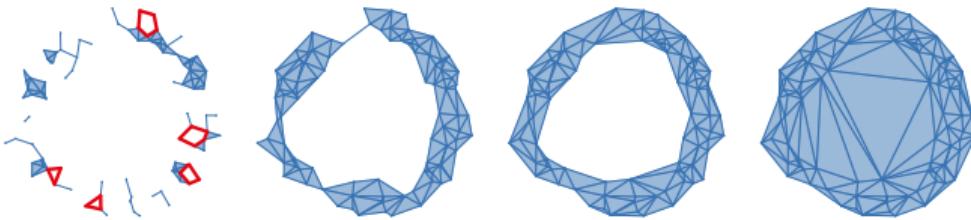


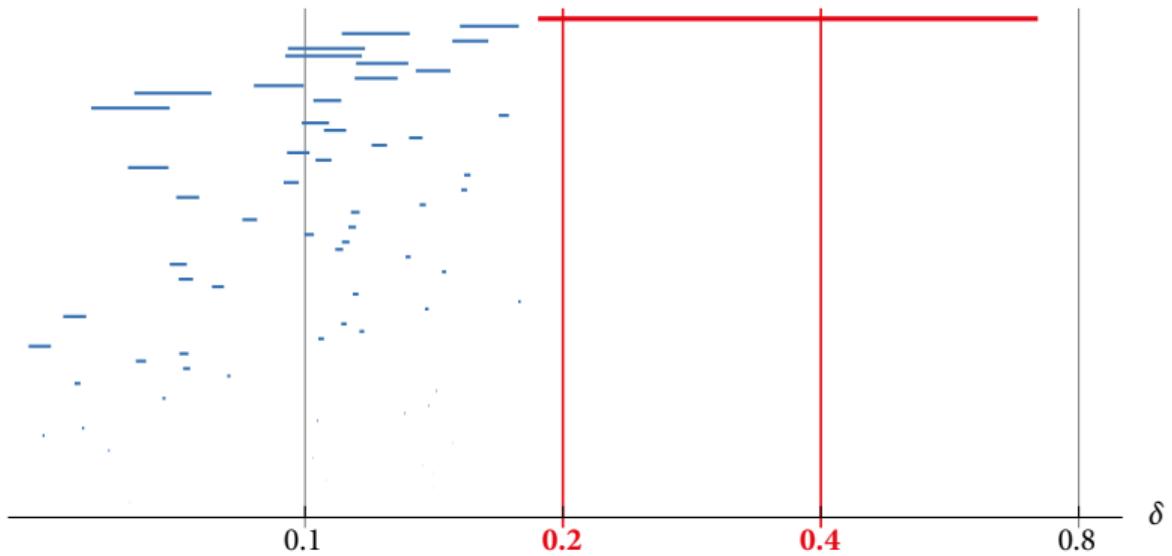
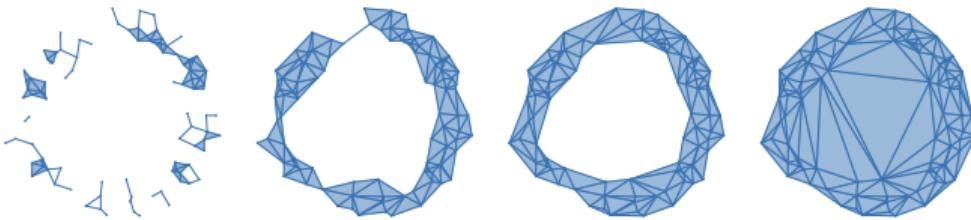


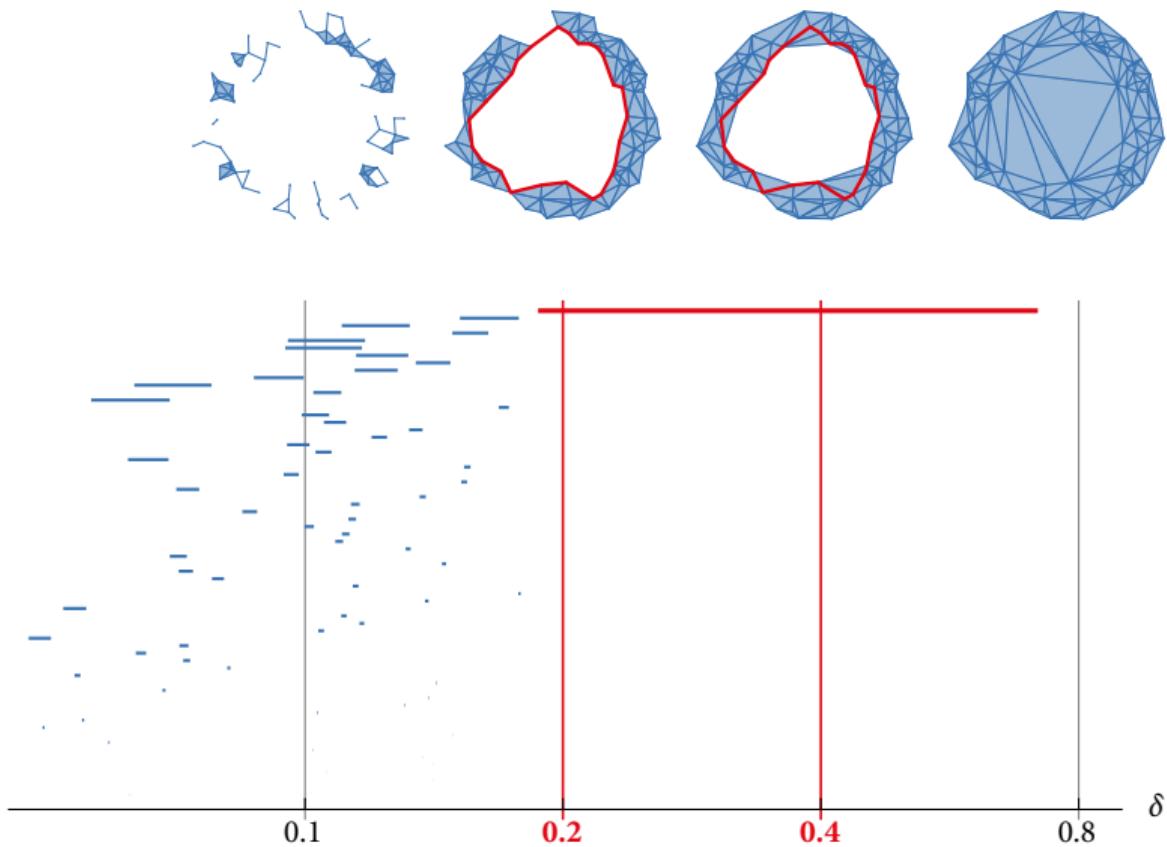












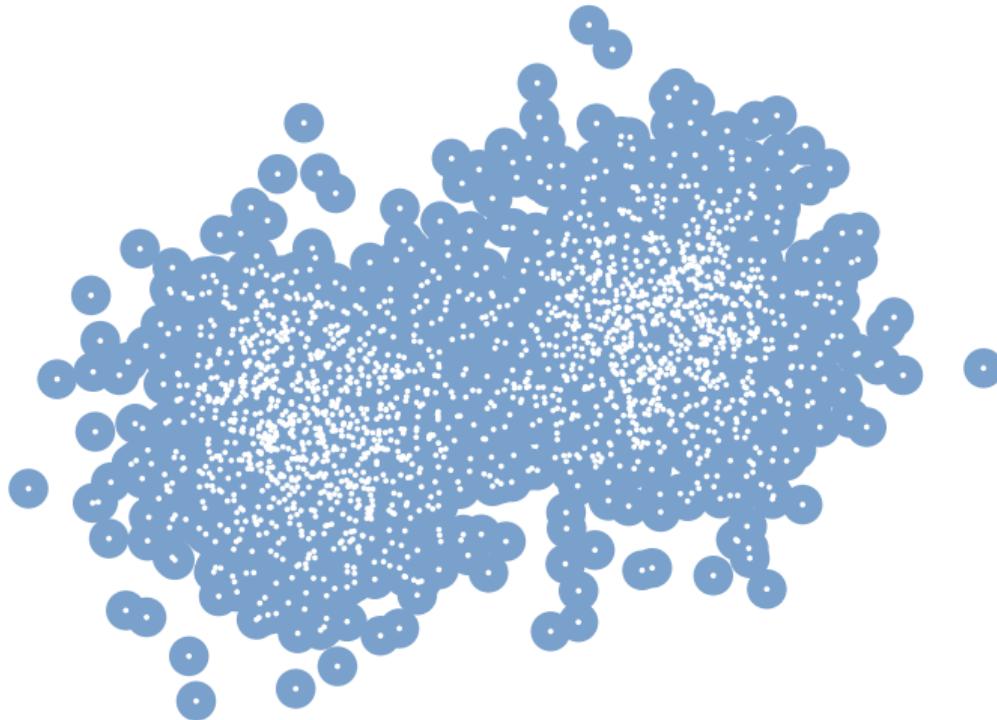
$$V_1 \rightarrow V_2 \rightarrow V_3 \rightarrow V_4$$

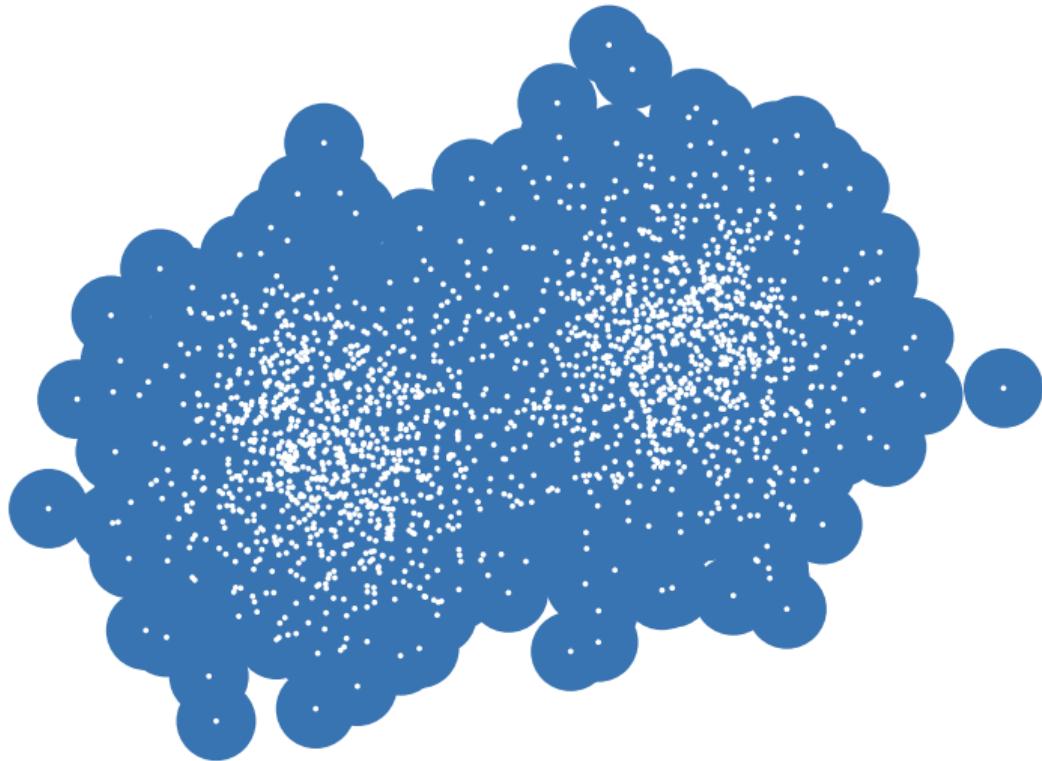




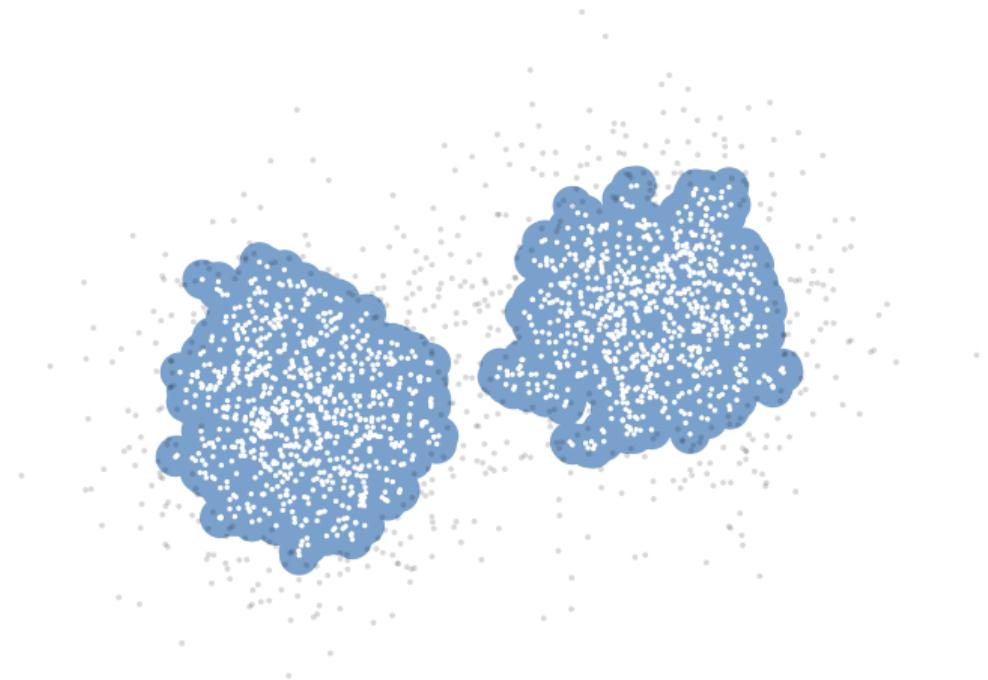




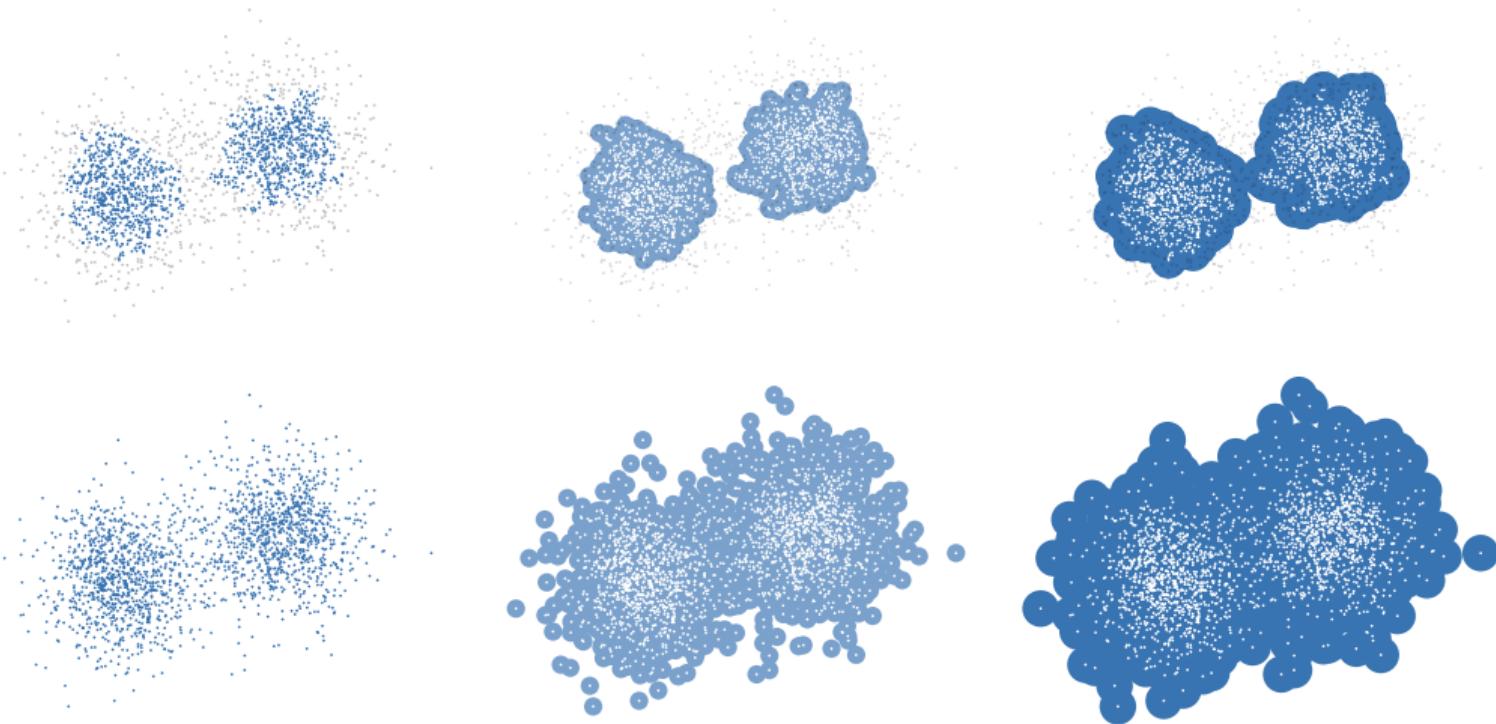












Two-parameter persistence with surjections

$$\begin{array}{ccccc} V_{0,0} & \longrightarrow \!\!\! \rightarrow & V_{1,0} & \longrightarrow \!\!\! \rightarrow & V_{2,0} \\ \downarrow & & \downarrow & & \downarrow \\ V_{0,1} & \longrightarrow \!\!\! \rightarrow & V_{1,1} & \longrightarrow \!\!\! \rightarrow & V_{2,1} \end{array}$$

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Does the special structure simplify the picture?

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Does the special structure simplify the picture?

Theorem (B., Botnan, Oppermann, Steen 2020, Adv. Math.)

The representation type of $m \times n$ grids with surjective horizontal maps is just as hard as that of general $m \times (n - 1)$ grids.