universität wien

VIS: OPTICS$_{vis}$
Milestone 3

Group 11

14. Dezember 2017

Fakultät für Informatik

Agenda

1. Project

   Motivation

2. Users and Tasks

3. Demo

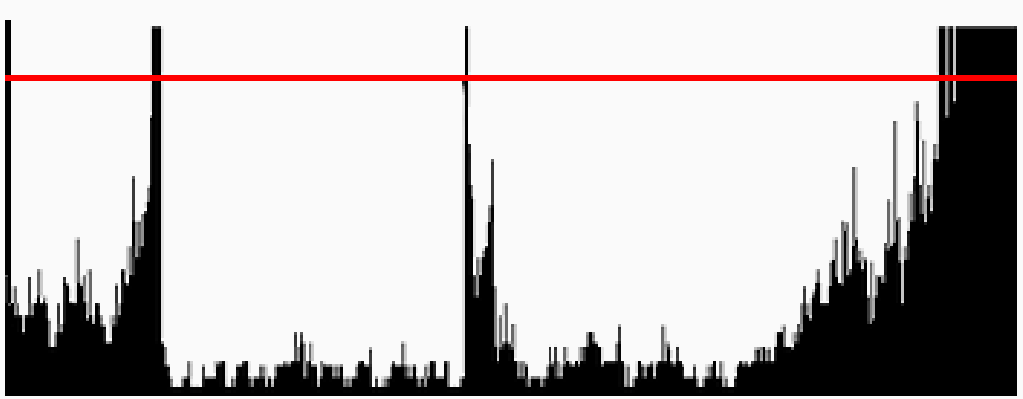
4. Challenges and Problems

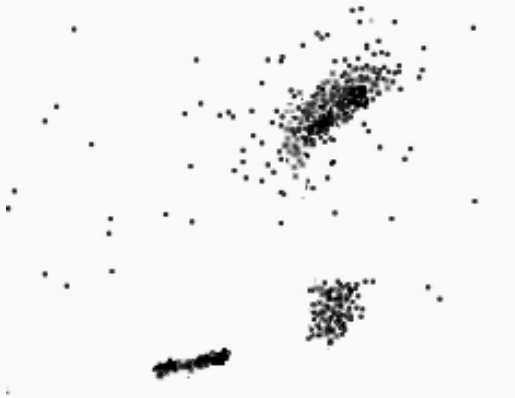
5. Future Work

Project

Project motivation

- OPTICS: density based clustering
  - algorithm jumps between points in some order
  - records jump distances
- output somewhat hard to read
  - point order
  - a list of numbers
- staple visualization method: the bar chart

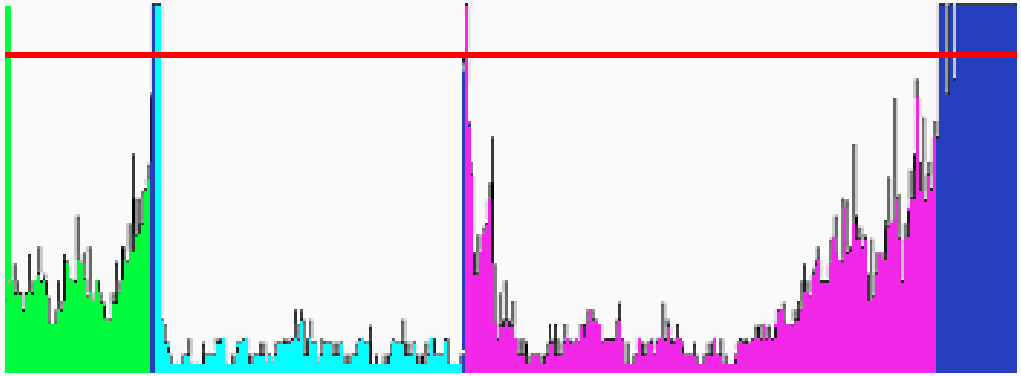


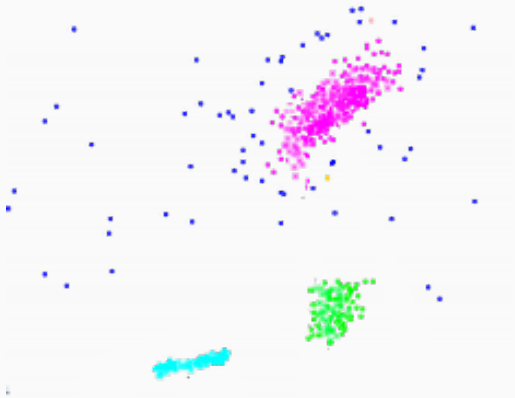


Project definition

- colorizing helps a lot
- but how does it *work*?
- how do these numbers relate to the data?
- parameterization?
  - min pts
  - eps

  $\rightarrow$ $\text{OPTICS}_{\text{vis}}$





Users and Tasks

Users

- Teachers
  - for educational purposes
- Researchers
  - exploration
  - testing before practical usage
- Anyone
  - exploration

Tasks

- Exploration
  - get a feeling for the algorithm, get to know it
- Education
  - learn about the algorithm and how to interpret the output
- Testing
  - give an idea if the algorithm fits the users problem
  - see if result/output is satisfactory and useful

Demo

Challenges and Problems

Challenges and Problems

- slow implementation
- some aspects of the visualization rely on running the algorithm repeatedly, locks up the interface
- would benefit from backend
- hierarchical clusters are meh

Future Work

Future Work

- different similarity/distance measures?
- multiple dimensions (to select from, probably no dimensionality reduction)?
    - doesn't really help with understanding OPTICS itself
- more/revise interaction

Thanks for your attention!

Questions?