

University of Konstanz
Department of Computer and Information Science
Chair for Data Analysis and Visualization
Dr. Johannes Fuchs, Frederik Dennig

Due: Monday, 01.02.2021, 10:00

Note: Use your visualization prototype from assignments 1–9 and only your prototype to answer the following questions. Please, submit your answers in a single PDF file. Provide screenshots to document your findings.

Task 1: Exploratory Data Analysis

Load the dataset `exploratory.csv` into your analysis framework. Please, perform an exploratory data analysis.

1. Document with which view you start the analysis and explain your decision.
2. Report on the individual findings.
3. How did you validate your findings?
4. What are you still missing in your prototype? Which additional methods / algorithms / visualizations could help in (a) getting an overview, and (b) validating your findings?

Task 2: Confirmatory Analysis

Load the dataset `confirmatory.csv` into your analysis framework. This dataset already contains class labels (cluster id). Please, confirm the following hypotheses using your prototype.

1. One dimension is clearly discriminating the clusters.
 - a) Document with which view you start the analysis and explain your decision.
 - b) Document the individual steps taken in the analysis.
 - c) How did you validate your findings?
2. Three classes are largely more similar than the other classes.
 - a) Document with which view you start the analysis and explain your decision.
 - b) Document the individual steps taken in the analysis.
 - c) How did you validate your findings?
3. There is a large amount of change in variance across the dimensions for each class.
 - a) Document with which view you start the analysis and explain your decision.
 - b) Document the individual steps taken in the analysis.
 - c) How did you validate your findings?
4. What are you still missing in your prototype? Which additional methods / algorithms / visualizations could help in confirming the hypotheses?