

Visual Analytics (COMP2026)

Autumn 2023: Assignment 2 (Group)

Multidimensional Data Visualisation

(Assignment deadline: Sunday 11th of June, 11:59pm on vUWS)

Assignment Details

For this assignment, you are required to identify and develop one (or more) visualisation(s) for the given multidimensional data set using existing software and/or programming platform(s), (e.g. Tableau, TabuVis, R, Python, etc.). Based on the visualisations, you can explore to find insight, patterns, ir(regularity) and interesting properties from the visualisation. Note, you are required to clean and process the data before using them in visualisation tools or programs.

Upon the visualisation and analysis, you are also required to write a report (approximate 1000 words or more) on the following aspects:

- Brief technical details of the used visualisation method(s),
- Discussion on the advantage and disadvantage of the visualisation method(s) in comparison with other methods in literature. Can the visualisation method(s) be used effectively for large multidimensional data sets and why? Which other analysis techniques could be helpful to support the visualisation in big data analysis? Such as in data processing, automated analysis, etc.
- Discussion on the analysis results and findings on the data sets,
- Discussion on other aspects, literature review of related work and your critical thinking on the visualisation(s).

Note: images (as figures) are essential and should be included in the report to illustrate the visualisations, results and findings.

Marking criteria for the assignment includes

- Development of satisfactorily visualisation(s) for multi-dimensional data (60%). The marking will be based on how well the visualisation method presenting the multidimensional data. Interaction should also be included in the visualisation.
- A report on the technical description of the visualisation, analysis results and other aspects (40%)
- Students in the same group will receive the same score in the normal circumstance.

Deliverables

Students must individually or in a group complete the visualisation(s) and the report. Each group has maximum 2 students. The report should be typed and submitted online through vUWS as a Word or pdf file. A high standard of professional English and neat logical structure (including consistent and complete referencing style) is expected.

Declaration

You are required to submit a declaration with the following claim (in a text file or word file).

DECLARATION

I hold a copy of this assignment that I can produce if the original is lost or damaged.

I hereby certify that no part of this assignment/product has been copied from any other student's work or from any other source except where due acknowledgement is made in the assignment.

No part of this assignment/product has been written/produced for me by another person except where such collaboration has been authorised by the subject lecturer/tutor concerned.

Submission

Together with the report document, the declaration, visualisation program(s) and data sets, and the report should be submitted via vUWS before the deadline for marking purpose. All these files should be zipped into one file with your student id as the zipped file name. Submission that does not follow the formats is not acceptable (i.e. Doc or PDF format for the report document, and ZIP file for source codes and others). No hard copy of the work and email submission is acceptable. For group submission, only one student will need to submit the assignment report to avoid 100% Turnitin similarity, and clearly indicate the second group member in the report. Other group members will submit the Zip file only, which should also include the report file for recording purposes.