Lecture Content

• Visualisation in Data Science
  • Theoretical concepts of data visualisation
  • Integration of visualisation in data science applications
Lecture Content

- Understand theoretical concepts
- Usage of visualisation techniques
- Practical implementation and application of libraries
Visual Data Science

• VU, 2 h, 3 ECTS
  • Lecture part
  • Focus on practical application
Dates

- **03.10.2018**  Introduction
- **10.10.2018**  Lecture  Introduction to Visualisation
- **17.10.2018**  Lecture  Introduction to Visualisation and Visual Data Science
- **24.10.2018**  -
- **31.10.2018**  Lecture  Visualisation for Spatial Data
- **07.11.2018**  Lecture  Visualisation for Multivariate Data and Graphs
- **14.11.2018**  -
- **21.11.2018**  Lecture  Visualisation for Machine Learning
- **28.11.2018**  Lecture  Making Algorithms Accessible
- **05.12.2018**  Lecture  Applications & Libraries
- **12.12.2018**  Lecture  Applications & Libraries
Dates

• 09.01.2019  Q&A for lab part 2
• 16.01.2019  Q&A for lab part 2
• 23.01.2019  Final workshop (mandatory)
Dates

• 19.12.2018  Deadline for lab part 1
• 30.01.2019  Deadline for lab part 2
Lab

- Consists of two parts
  - Part 2: 05.12.2018 - 30.01.2019
- Both parts have to be submitted for a positive grade
Lab – Part 1

• Study difference between statistical analysis and visual analysis
• Dataset provided, pre-defined visual technique
• Solve three tasks
  • Once solely using statistical methods, and
  • Once solely using visual analysis
• Write report (1 A4 page about discovered differences)
• Submit report (19.12.2018)

Submitting the first part means that grade will be issued
Lab – Part 1

- Dataset: USD Nutrition Dataset

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<th>Water (g)</th>
<th>Energy_Kcal</th>
<th>Protein (g)</th>
<th>Lipid_Tot (g)</th>
<th>Ash (g)</th>
<th>Carbohydr (g)</th>
<th>Fiber_TD (g)</th>
<th>Sugar_Tot (g)</th>
<th>Calcium (mg)</th>
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<th>Magnesium (mg)</th>
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Lab – Part 1

• Three tasks:
  • Cluster food based on energy and identify clusters with highest and lowest energy values
  • Find correlation between water content and other nutritions
  • Find out how gluten-free / sugar-free food differs from other food

• Part 1 starts on 10.10.2018
Lab – Part 2

• More freedom than in first lab part
• Part 2 starts on **05.12.2018**
• Datasets given, but also possible to use own dataset
• 3 tasks have to be solved
  • Using at least two different datasets
  • Using three different libraries/applications
• Third task will be creation of a dashboard, that can be used for presentation
• 2 bonus tasks available
• Write report (2 pages) to document results and explain findings
• Present dashboards and discuss results in **workshop (23.01.2019)**
• Submit **report (until 30.01.2019)**
Grades

• Points are issued for different parts of the VU

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# Grades

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No written/oral exam
Organisation

• Please register for course in TISS
  • https://tiss.tuwien.ac.at/course/courseAnnouncement.xhtml?dswid=1919&dsrid=317&courseNumber=186868&courseSemester=2018W

• If working as a group, tasks will be adjusted accordingly

• Further information online
  (https://www.cg.tuwien.ac.at/courses/VisDataScience/)

• Submission of reports via email (jschmidt@cg.tuwien.ac.at)
References
