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
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

<table>
<thead>
<tr>
<th>Grade 1</th>
<th>&gt; 85 points</th>
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<tbody>
<tr>
<td>Grade 2</td>
<td>&gt; 75 points</td>
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<tr>
<td>Grade 3</td>
<td>&gt; 62 points</td>
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<td>Grade 4</td>
<td>&gt; 50 points</td>
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<td>Grade 5</td>
<td>&lt;= 50 points</td>
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### Grades

<table>
<thead>
<tr>
<th>Part</th>
<th>Points</th>
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<tbody>
<tr>
<td>Attendance of lecture</td>
<td>3 points / lecture</td>
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<tr>
<td>Lab Part 1</td>
<td>30 points</td>
</tr>
<tr>
<td>Lab Part 2</td>
<td>50 points</td>
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<tr>
<td>Lab Part 2, bonus task</td>
<td>10 points</td>
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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](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](mailto:jschmidt@cg.tuwien.ac.at))
VU Visual Data Science

Johanna Schmidt

WS 2018/19