DS5343 - Visualización de Datos

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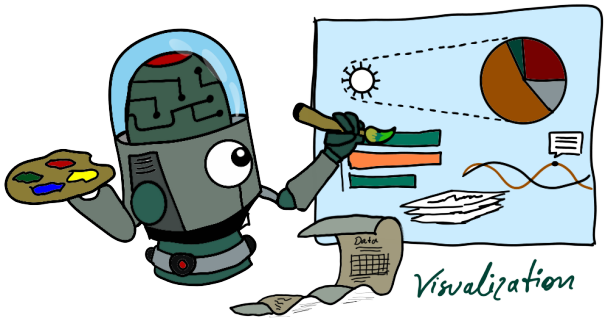

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Data Science Program

Final Project Guidelines

1 Project Overview

The final project will provide a practical experience in analytical visualization and visual communication using complex, real-world data. Students will select and work on one of the mini-challenges from the **VAST Challenge 2025**, which provides a multi-layered, investigative dataset.

Each team (1-2 students) will work collaboratively to explore, analyze, and communicate insights from the selected challenge using effective visualization techniques and tools. Emphasis is placed on visual reasoning, interactivity, and narrative clarity.

- Mini-Challenge 1 (MC1)
- Mini-Challenge 2 (MC2)
- Mini-Challenge 3 (MC3)
- Design Challenge

1.1 Overall mechanism and infraestructure

TeamWork. You will work on this project in your "assigned" teams. As a team, you will use a shared GitHub repository to coordinate your work. As a team members I hope you will fill missing gaps in background knowledge, and teach each other about tools and practices that are effective for this task. I expect that all team members make every effort to be a good team citizen (attend meetings, prepared and cooperative, respect for other team members, work on assigned and agreed tasks by agreed deadlines, reaching out to team members when delays are expected, etc).

Each group will be responsible for presenting their final products (code, video, report, etc). During the last week (Week 16), there will be a exhibition and submission to the challenge.

In summary:

- Teams will collaborate via GitHub/GitLab repositories.
- All visualizations must be built using appropriate tools (D3.js, Vega-Lite, Observable, R/Shiny, Python/Plotly, etc.).
- Deliverables should include documentation, visualizations, video explanation, and a presentation.

2 Project Milestones

For each milestone and the final presentation, there are separate deliverables, described below. The milestones are checkpoints to ensure that certain functionality has been delivered. Milestones are graded on a pass/fail scheme for the criteria listed with each milestone.

- **14-05-2025: Challenge Exploration**

- Deliverable: Summary of two past VAST challenges and rationale for selecting your 2025 challenge.

- **28-05-2025: Project Proposal**
  - Deliverable: Initial proposal including objective, research questions, visualization approach.
- **04-06-2025: Exploratory Data Analysis**
  - Deliverable: Data cleaning notes, sketch prototypes, visualization choices.
- **18-06-2025: Formative Feedback Round**
  - Deliverable: Report on user feedback (2–3 users), reflection and plan for improvements.
- **25-06-2025: Iteration and Narrative**
  - Deliverable: First version of the explanatory video (4 minutes max).
- **09-07-2025: Final Submission**
  - Deliverables:
    - Final visuals (static or interactive).
    - `index.html` answers to VAST Challenge questions.
    - GitHub repo with code and documentation.
    - Final demo video.

3 Social Activities Bonus

I hope that the following can encourage some social interaction that goes beyond the technical parts of the team project. **This is entirely optional**.

Team members can earn bonus points if they engage in a in-person social activity with their team that is not related to any coursework. This could just be an informal happy hour, playing a board game or computer game together, do a puzzle or trivia quiz, watch a movie, or whatever you like, as long as it is not course related. If you do, send evidence (selfie) tagging all team members who participated (who should all be visible in the selfie). Just taking a selfie outside the classroom does not count; do some recognizable social activity. You can also join forces with other teams if you are looking for some friendly competition, no constraints.