

FINAL PROJECT
GUIDELINES

The final project of the course integrates the knowledge acquired throughout the semester and consists in solving a practical problem **using the statistical package R**. I remind you that, as stated in the course syllabus, the project is 30% of the final grade and that it is not retakable.

Objective: The main purpose of this project is to generate a report truthful in content and professional in its presentation. The final project is carried out in groups composed of 5 students. The group chooses the research questions to be studied. The questions can be complex or simple. Special consideration will be given to “out of the box” questions. The “AI/ML Salaries data” is the same for all groups. The salaries data are from ai-jobs. The data can be imported manually from Kaggle’s Website:

<https://www.kaggle.com/datasets/cedricaubin/ai-ml-salaries>

GUIDELINES

The dates indicated are final due dates. You can turn in the project in advance. If any group needs extra time to finish the project, be sure to contact your teacher **before** the deadline. Late projects will be penalized.

All documents will be uploaded in the space provided at Aula Digital.

- **Group formation: Deadline:** December 5th, 2023 by 23.55 h.

Weight in the final grade: 0%.

The first step is the formation of each team that will complete the project. After the deadline, all changes/incorporations will be handled by the teachers.

- **Final report: Deadline:** February 1st, 2023 by 23.55 h.

Weight in the final grade: 20% (data analysis 5%; models and evaluation 15%).

The project final report will include a cover page with the group’s members and a title. In the final project can consider any of the topics given in the course.

Items to be included in the report:

1. Description of the problems you wish to investigate: the research questions.
2. Description of the raw data: amount of data, number of variables, Data analysis: general feeling of the data. Data preparation: relevant aspects of the data’s pre-processing.
3. Summary of the processed data: you **must** include some type of graphical representation and comment on the relevant aspects of the data.
4. List of methods used, techniques explored while solving the problems, . . .
5. Description of the experimental results and its evaluation.
6. Final conclusions.

- **Project’s presentation**

Weight in the final grade: 10%.

The oral presentation of the final project will take place on December 20th and 21st, 2022 and **all** members of the group must attend. Since all team members are equally responsible for the final work, any student should be able to defend any aspect of the work. Students will be randomly chosen to present the project and answer questions.

In the presentation you will provide a brief outline of what you want to accomplish, steps to be taken and objectives to be achieved; describe the research questions and give preliminary results. The total time allotted to present each project is 20 minutes. You should plan to speak for 15 minutes and leave 5 minutes for questions.

ELEMENTS THAT WILL BE CONSIDERED IN THE ASSESSMENT OF THE PROJECT'S FINAL REPORT

1. Objectives and significance:

- what the goal of the project is, why is it important, and your motivation for doing it;
- how interesting is the research question and how many groups propose the same question;
- the depth of your research and a clear presentation of the objectives achieved.

2. The data:

- group effort when pre-processing the data.

3. The final results:

- quantity and variety of methods and/or models used;
- analysis of the results.

4. Discussion and conclusions:

This section sums up the work carried out and you should give it special attention. It consists in the summary of the results achieved and outlines a reasoned conclusion thereof. Some aspects to consider, among others, are:

- Describe what makes your work particularly interesting.
- Conclusions on the results, emphasizing the really significant results and analyzing those unsatisfactory results;
- From the results obtained, indicate possible improvements to be considered;
- Personal assessment of the work carried out: general overview of the research completed and the results obtained, difficulties encountered, recommendations ...

5. The written report must clearly state the research carried through. It should reflect not only the work done but how the problem you have studied has helped you learn the topics of the course.

6. Individual tasks:

This part of the writeup is individual and each team member needs to write and upload their own summary. In the student's individual grade of the final project, the teachers may take into account (to raise or lower the grade) the contribution of the student to the group's performance.

- Describe what each member of the team did, include yourself. Be specific about the roles of everyone.
- Rate the participation of all group members according to the following criteria. If you give a less than ordinary evaluation, please justify it.
 - **Excellent:** Consistently above his/her workload.
 - **Very well:** Consistently has done his/her workload, has prepared well, and has been cooperative.
 - **Satisfactory:** Generally has accomplished his/her workload, has prepared acceptably, and has been cooperative.
 - **Ordinary:** Often has done his/her workload, prepared minimally, and been minimally cooperative.
 - **Deficient:** Frequently has not done his/her workload, nor attended meetings.
 - **Unsatisfactory:** Consistently has not participated in meetings, nor has done his/her part. Has not prepared, nor has cooperated.
 - **Nothing:** No participation at all.

ELEMENTS THAT WILL BE CONSIDERED IN THE ASSESSMENT OF THE PRESENTATION OF THE PROJECT

1. Organization:

- the type of presentation is appropriate for the topic and audience;
- information is presented in a logical sequence.

2. Content:

- introduction is attention-getting, lays out the problem well, and establishes a framework for the rest of the presentation;
- technical terms are well-defined in language appropriate for the target audience;
- presentation contains accurate information, material included is relevant to the overall message/purpose;
- appropriate amount of material is prepared, and points made reflect well their relative importance;
- there is an obvious conclusion summarizing the presentation.

3. Presentation:

- speakers maintains good eye contact with the audience and is appropriately animated;
- speakers use a clear, audible voice; delivery is poised, controlled, and smooth; good language skills and pronunciation are used;
- visual aids are well prepared, informative, effective, and not distracting;
- length of presentation is within the assigned time limits; information was well communicated.