Assoc. Prof. Andrea Araldo

Guidelines for successful presentations

Tell a story

- … that can be understood by non-experts in data-science and by non-experts in networks
- … but give solid scientific information so that the experts in data science and in networks are not disappointed (in the final jury, all kinds of profiles might be present)
- Be sure the following information is present
  - Context
    - What is the dataset about? How was it obtained? By whom? How has it been used?
    - What is the goal (or the goals) you want to pursue with your analysis
      - You should prevent your presentation from being a sequence of "I applied this and this is the result. Then, I applied this other algorithm, and this is the result, etc."
      - Before talking about the application of any algorithm, the audience should know what you want to do
  - Characterize and understand your dataset
    - … via data exploration
    - … but do not report everything you found: only report what you think is useful or interesting to observe.
    - Explain the meaning of the columns and the values
  - Explain your data-science protocol clearly
    - What pre-processing you did and why?
    - How do you get your training and test data? Which operations do you perform on the former and on the latter?
  - Analyse the results
    - Do not just show "here are the results".
      - Try to tell if you expected them to be like they are. Or if they surprise you? Try to get some explanations of why you get these results. Why performing some modification to the algorithms' hyper-parameters gave you better results, etc.
    - Link the results
      - The presentation becomes more interesting if you let the audience know what was your analysis path. For instance, you might say that you first applied a certain method, but then you observed a certain thing, which gave you the idea of doing some additional pre-processing or changing some hyper-parameter, etc.
    - Link the results you obtain with your knowledge or intuition about the dataset domain

Assoc. Prof. Andrea Araldo

Show that you tried the different models and techniques seen in the course

- Use some explainable AI in order to explain why your models give some results
- Use some dimensionality reduction: even if it does not improve your results, show at least one slide about it (even if you spend just few seconds of your talk on such a slide)

Be critic with your project

- You are not trying to sell a project. So, try to openly find the limits of your project (it is always better you tell the limits rather than the jury points them at you)
- Close to the end of the presentation, try to critically assess whether the methods explored would be feasible in real situations
  - Is the dataset representative of the reality? Or is it obtained in a controlled environment? Would the results hold the same in real situations? Would the features present in the dataset be easily collectable in real situations? Why?
  - Would the approach be scalable in a production environment?
  - Is the dataset updated enough? If the same methods are applied to a more recent dataset, do you expect the same results to hold?
- During your rehearsals, challenge your team members, ask nasty questions, try to anticipate the questions that can come from the jury

Add only important information

- Avoid too much writing. Slides are not a text that you have to read aloud. Slides are a support to your speech. Be schematic. Use figures, schemas, bullets
- Clean the information before putting it in the slides.
  - For instance, avoid to copy and paste the output of a Python notebook as it is. Only take the informative part. As another example, if you have categories encoded in some integers numbers, prefer to show the name of the categories instead of numbers.
  - If not needed, avoid using too many decimal numbers. For instance, instead of writing 5.7598766%, just 5.8% would be enough in most cases! For the sake of clarity, you may use colours (e.g., green, yellow, orange, red to indicate whether the numbers you show are good or bad)
  - Be sure that the pictures or graphs you add are readable (fontsize is large enough) and of good resolution

Add page numbers

- It is useful to let your audience ask specific questions related to specific parts of your presentation

Respect the timing

- Rehearse before the final presentation and chronometer yourself, to be sure your presentation does not go beyond the time you have

Assoc. Prof. Andrea Araldo

If you are part of a group

- Divide the presentation in order for the instructor to understand precisely the contribution of each member
- The contribution of each member should be balanced
- It is not acceptable that a member only talks about the bla-bla-bla or introductory part. Each member should show that they some technical work.
- If questions are asked, prevent one member to answer all questions. Each of the members should contribute to answering questions