Problem based learning

27 May 2019
What’s next

17.06: Background talks: Leonardo/Felix, Isabell/Max, Robin/Faezeh, Jonas/Leo (since we have 4 groups we will have to start at 12:00!)

24.06: Background talks: Alex/Marc, Kalin/Justin, Leonie/Henrik/Leopold

- get an outline approved by your supervisor (if not done so already)
- arrange a meeting to show (final) slides
- meeting to show slides should be at least 2 weeks before your presentation

01.07: Introduction to Machine Learning with Python

- suggestion for a tutorial if you don’t have any prior knowledge: https://www.edx.org/course/python-basics-for-data-science-2
How to give a good presentation

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Things to take care of

1. Content
2. Graphics
3. Slides (Style, structure, …)
4. General things
Content (1)

● Have a clear focus
  ○ A presentation should cover the most important aspects/results in the given time
  ○ Only show intermediate steps/details of methods that are relevant
  ○ Focus on your most important results without peculation of important negative results (don’t massage your results, just focus)

● Think about your audience
  ○ only present details that are understandable for your audience
  ○ provide background information if needed
Content (2)

● Give a presentation not just a summary of your work
● Try to **simplify complex aspects**
● Use simple examples to explain complicated interrelationships
  ○ Try to find (artificial) examples as simple as possible
  ○ Explain the more complex application afterwards using e.g. a real-world example
● **References** should be cited according to scientific conventions already in the presentation (i.e. title, author, journal, date of release)
  ○ you don’t have to cite everything, but the main aspects like
    ■ data sources/datasets
    ■ methods from others
    ■ surprising findings your results are based on
    ■ ...  

● Do not use links, but give an actual citation
  ○ exception: sometimes you can cite figures using a link
BLAST: Basic Local Alignment Search Tool

Altschul et al. (1990): "Basic local alignment search tool."
Graphics (1)

- Try to **use graphics** as often as possible
  - can include e.g. logos for used databases, sketches, workflow diagrams,...
  - “unofficial” rule in the Rostlab: every other slide should contain a graphic
- If you adapt graphics from a journal/download them from the internet, include the proper citation
- Make sure your graphics have a **high enough resolution**
  - sometimes, it looks better to draw the graphic again yourself instead of using a badly scanned picture
- Use a pointer to explain certain aspects of your figure
- Make graphics as big as possible (i.e. use the whole space available on the slide)
Graphics (2)

- Graphics should have **a title and a clear labelling of the axes**
- Make sure that title, labels, etc. are large enough
- Make sure the important aspects of your graphic are visually easy to see
  - Mark certain data points that you want to discuss with an arrow or similar
  - Draw horizontal or vertical lines to separate parts of the graphic
  - Colour different aspects differently (make sure that these colours are easy to distinguish)
- Make sure that you **explain your graphic** thoroughly
  - Start with a general explanation of what we see and the axes before discussing individual data points
Alignment sensitivity

Boratyn et al. (2012): Domain enhanced lookup time accelerated BLAST.
Slides (1)

- **Include your name** (first and last name on the 1st slide)
- For longer presentations, **include an outline** and refer to this outline throughout the talk
- Include slide numbers (makes it easier to ask questions in the end)

- The font size should be **at least 18pt**
- Don’t use a font with Serifen (e.g. Times New Roman)
- Avoid center justification
Slides (2)

- Avoid too extravagant layouts and shrill colours
- Try to avoid animations/use them moderately
  - Use simple animations without big effects
- Avoid full sentences except for definitions or similar
- **Make sure that the text is readable**
  - especially if you are using a different colour scheme than black text on white background
Slides (3)

- Make sure to use all the space on a slide without overloading it
- Follow the 5 ± 2 rule: **5 ± 2 bullet points per slide**
- Take enough time to explain a slide (**2-3 minutes per slide**)

- Make sure you are presenting and not your slides!
  - Your slides should only support your presentation
How Rivers Are Formed

- Rivers start as very small streams and gradually get bigger as more and more water is added. Heavy rains and spring meltwater add so much water to some rivers that they overflow their banks and flood the surrounding landscape.
- The water in rivers comes from many different sources. Rivers can begin in lakes or as springs that bubble up from underground. Other rivers start as rain or melting snow and ice high up in the mountains.
- Most rivers flow quickly in the steeply sloping sections near their source. Fast moving water washes away gravel, sand and mud leaving a rocky bottom.
- Rivers flowing over gently sloping ground begin to curve back and forth across the landscape. These are called meandering rivers.
- Some rivers have lots of small channels that continually split and join. These are called braided rivers. Braided rivers are usually wide but shallow. They form on fairly steep slopes and where the river bank is easily eroded.
- Many rivers have an estuary where they enter the ocean. An estuary is a section of river where fresh water and sea-water mix together. Tides cause water levels in estuaries to rise and fall.
General things

● Check the technical setup in advance
● Make sure to have a backup plan (i.e. have a USB stick with your presentation prepared)
● Introduce yourself
● Talk to the audience, not the screen
● Speak slowly and clearly
● Try to speak without note cards
● Stay within the given time
● Mark the ending of your talk clearly
● **Practice, practice, practice!**
THAT CONCLUDES MY TWO-HOUR PRESENTATION. ANY QUESTIONS?

DID YOU INTEND THE PRESENTATION TO BE INCOMPREHENSIBLE, OR DO YOU HAVE SOME SORT OF RARE "POWER-POINT" DISABILITY?

ARE THERE ANY QUESTIONS ABOUT THE CONTENT?

THERE WAS CONTENT?