Exercise - Prototyping with Streamlit

Learning goal

- Develop skills in prototyping with Streamlit "by doing"

Instructions

Propose an idea that involves data or AI and that represents an interesting and useful new feature for an existing or fictitious product. It can be some feature that you think would bring some value (e.g. book recommendation feature on Linkedin), or it can be inspired by an existing feature of a product that does not work so well (see, for example, slide 54 of Lecture 1). If you participated in the Discussion forum activity and you're happy with your initial prototyping, you can build on this idea.

A mandatory requirement is that **data and/or AI should be at the center** of the value enabled by that feature.

Instructions

Once you have the idea, develop a Streamlit prototype that shows how the model *would be used to help a user achieve the desired purpose* and push the code to a repository.

Recommendations

- **Try to avoid making "just an app that displays data or predictions"**, and think of the purpose of the prototype, as discussed in Lecture 1.
- **Use widgets that have not been used in the last class.** Remember checking the Streamlit API Reference. Advanced users mastering Python / Github / etc can try to create their own widgets (if you create an own widget, make sure it brings value to the app -- a typical prototyping mistake is to add something without purpose).
- The Streamlit app should be usable but **should also make sense visually**, or at least should be well-organized (think both about interaction and layout widgets).
- In general, try to think about the three aspects of an AI prototype discussed in class: **appearance or user experience, data/model pipeline, and accuracy**. Also consider the different prototyping mindsets discussed in Lecture 1.

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Exporting your model

If you use a machine learning model, try to separate any offline part (e.g. training) from the prototype "runtime" for efficiency. Also remember it is a good practice to separate the "prediction logic" from the prototype, as seen in the Cloud Computing course.

Deliverables

Submit through Moodle:

1. The link to a repository where the code is hosted.
2. The link showcasing the Streamlit app. The most basic option is to share a video. As a more advanced option, you can use any of the tools mentioned in the class slides.
3. A 2-page document in your own words describing the process you followed to create the prototype. This includes how you used AI to help building your prototype.

Reminder: Pushing the code to a repository

- Create an empty repository in your Github account (can be public or private).
- After creating the repository, git will provide some instructions on how to push your files. You can also follow these instructions.
- To learn more about github, feel free to complete the Github concepts datacamp course.