NHH

HOME EXAMINATION BAN432

Autumn, 2023

Start: 13.11.2023, 09:00

End: 20.11.2023, 14:00

THE HOME EXAMINATION SHOULD BE SUBMITTED IN WISEFLOW

You can find information on how to submit your paper here:
https://www.nhh.no/en/for-students/examinations/home-exams-and-assignments/

Your candidate number will be announced on StudentWeb. The candidate number should be noted on all pages (not your name or student number). In case of group examinations, the candidate numbers of all group members should be noted.

SUPPLEMENTARY REGULATIONS FOR HOME EXAMINATIONS

You can find supplementary regulations under the headline “Regulations”

https://www.nhh.no/en/for-students/regulations/

Find more information under chapter 4.0 in the Supplementary provisions to the regulations for fulltime study programmes

Number of pages, including front page: *3*

Number of attachments: *1 file (dataShareWithStudents.zip)*

BAN432, fall 2023 – Final Project

Formalities

This final project will be handed out on 13 Nov, 2023 at 9:00 and has to be submitted on Wiseflow no later than 20 Nov, 2023 at 14:00.

In addition to the required hand-in files, you will present your findings on 23 or 24 Nov. Presentations will be strictly 5 minutes long, followed by a 15 minute question and answer session. If your group has not done so, you have to sign up on Canvas for individual presentation slots. All members of the group have to sign up at the same time slot and they all have to be present in-person. This exam is group-based and all group members will receive the same grade for the report. However, the grade for the presentation will be given individually.

Please note that all group members have to equally contribute to the exam. This implies that we expect all group members in the oral exam to be capable of answering questions to data, model, as well as interpretation.

Please submit the following three documents

- **Report (.pdf)** In the report, you should present, analyze, and interpret your results. You should provide numeric and written answers to all questions asked in the exam. Do not discuss your coding in the pdf as this should be found in the R-file. Please keep your answers short and precise. Only focus on questions specifically asked in the outline of the project. If you want, you can write this document in R Markdown, but make sure to submit it as a pdf, and to submit an .R coding file in addition.
- **Coding file (.R)** Please describe your general coding approach for each task. You do not need to explain the used functions.
- **Presentation (.pdf)** This is the presentation that you will hold on 23 or 24 Nov. It is not allowed to change the slides between your submission and the actual presentation. Make sure that you use your 5 minutes presentation time wisely. It is important that you provide an economic rational for choices you made during this project.

Your task

How does the release of ChatGPT affect firms and the risks they face?

In this exam, you will use earnings calls transcripts to understand how the release of ChatGPT affected the business environment.

On November 30, 2022, OpenAI released ChatGPT to the world. Within one week, more than 1 million people have used the software. AI, in particular generative AI and LLM, have become household terms, partially because of the media attention to it. AI, in particular due to the release of ChatGPT, promises economic growth. The use of AI will likely make many tasks more efficient (writing, coding, etc.) or even automate tasks. At the same time, the capabilities of AI spark fears such as work displacement but also more existential threats.

In this exam you will be using actual textual data to answer the following two questions:

(1) Which industries are affected by the release of ChatGPT?

(2) What are the risks firms face regarding AI?

You are free to choose methodology and tools. However, keep in mind that the approach you design should be data-driven. For example, it is not okay to look for different risks in newspaper articles and ask whether they are mentioned in the earnings call corpus. Make sure that you provide answers to the questions posted.

Data provided

- 7,000+ earnings calls between October 2021 and August 2023. You can load them with the function `readRDS()` or `read_rds()` from the `readr`-package.

Comments and suggestions

- Do not be discouraged if data is fairly messy, it usually is. It might be smart to open one of the earnings calls to understand their structure.
- Please be aware that we only specify the raw data but not how to structure/limit the final corpus. Use economic judgement regarding the trade-off corpus size and effort. Also, we have following words of advice regarding working with large amounts of data:
  - You could select a sub-sample of the data. Even if you decide to use the whole data, we would recommend to try your code on a small sub-sample before you apply it to the whole set of data.
  - We would advice to be careful with how many documents you hold in memory.
- Your empirical approach has to be creative and convincing. We would like to point out that just using an off-the-shelf model might not be the most convincing approach. Make sure that you tailor the tools we covered in the course to the exact RQ. You might want to combine several tools into one approach.
- Only use tools that you understand well enough so that you are comfortable with receiving questions about them in the oral exam. Often simple approaches work almost equally well as complicated ones.
- As we have seen in several lectures, the actual pre-processing steps matter. Make sure that you are considerate with your choices but also that you understand the impact of each pre-processing step on the final outcome.
- Both guest lectures might be relevant for the task.
- If you have questions during the exam, do not visit us in our office but write an email. If we answer your request, we will do so on Canvas so that information is public and distributed fairly.
- Good luck!