

## Meeting summary for Advanced Time Series Prediction (04/16/2025)

### Quick recap

Kristian introduced the Advanced Time Series Prediction course, welcoming participants and outlining the course structure, topics, and project requirements. He discussed various data sources for different domains and provided guidelines for the course project, emphasizing the importance of using recent data and implementing multiple models. The conversation ended with discussions on project distribution, course expectations for the coming weeks, and the potential for publishing a paper based on the course results.

### Next steps

- All students to watch at least one playlist of videos for Week 2 from the provided GitHub repository.
- All students to think about which project type they want to work on (finance, energy, environment, medical, or engineering) and put their name in the Mattermost chat by next week.
- All students to review the GitHub repository, especially the Week 1 and Week 2 notebooks, to familiarize themselves with the course content.
- Interested students to prepare to present a notebook (e.g., GARCH or SARIMA model) for next week's session.
- Kristian to create messages in Mattermost for students to indicate their project preferences.
- All students to be prepared for project and group allocation in next week's session.
- Students with questions to write in the Mattermost chat.

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### Summary

#### Advance Time Series Prediction Course Overview

In the meeting, Kristian welcomed everyone to the session about Advance Time Series Prediction and introduced himself. He then asked each participant to share their background, goals, and expectations from the course. The participants included Astik, Edgar, Thao, Niloufar, Lamichhane, Krishaben, Melnichenko, Ayodhya, Souvick, Binayak, Anjel, Robbin, and Aadip. They all expressed their interest in the course and their backgrounds in various fields such as quantitative finance, data science, and economics.

#### Advanced Time Series Course Overview

Kristian introduces the Advanced Time Series course, explaining its broad scope covering topics from quantitative finance to electrical engineering and agricultural applications. He emphasizes the course's steep learning curve and advises students not to stress if they don't grasp everything immediately. Kristian outlines the course structure, including weekly topics, project work, and presentations. He also discusses organizational matters such as attendance requirements, the use of Mattermost for communication, and the GitHub repository for course materials. Students are instructed to choose their project topics by next week and to have their data ready by the end of April.

#### Data Acquisition Process for Course

Kristian discussed the data acquisition process for the course. He suggested that students work in groups, with more advanced students using more complex architectures. The final project submission is due at the end of August, and it takes about a month to grade and receive certificates. Kristian also mentioned that the slides and notebooks will be made

available. He emphasized the importance of attending the sessions and registering on the platform to avoid potential issues.

### **Time Series Analysis Project Guidelines**

Kristian provides an overview of resources and guidelines for the course project on time series analysis. He discusses various data sources for different domains including finance, energy, environment, and medical signals. For finance, he recommends Yahoo Finance and APIs from the Federal Reserve Bank. For energy data, he highlights the Fraunhofer Institute's energy charts. Kristian emphasizes the importance of using recent data and suggests potential project ideas such as forecasting market drops or combining energy production with electricity prices. He also mentions resources for weather, agricultural, and medical data. Kristian explains that projects should include multiple model implementations (at least 5-8 depending on group size) and present results comparing different architectures.

### **Projects**

### **Course Structure and Project Expectations**

In the meeting, Kristian discussed the course structure and expectations for the next few weeks. He emphasized the importance of preparing for the next week's session by watching the provided videos and possibly implementing the models. He also mentioned the possibility of combining different projects, such as cryptocurrencies and commodities. Kristian encouraged the participants to think about their project ideas and to use the Github repository for reference. He also mentioned the possibility of publishing a paper based on the course results. The participants were asked to watch at least one of the provided playlists for the first week and to prepare for the next week's session.

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