**Task (DEADLINE: 15th FEB)**

Literature review focusing on the current methodologies used to apply ML in stock markets. The main objective of the task is to gather ideas that could be explored in the project.

**Writing the literature review**

A literature review involves summarising the main perspectives/arguments, critically analysing the literature, gaining an understanding of the broad context of your research, and identifying gaps in the literature to justify your own research.

The following questions may be helpful in analysing each paper:

* What problem is the author trying to solve?
* What are the key concepts in the model/method? And how were they derived (i.e. the assumptions and theory behind them)?
* What was innovative about the approach used in this study?
* What are the results and conclusions of the study? Is it justified by the evidence? Or any there any bias, errors, or inconsistencies?
* How does this paper compare to the other papers on this topic? Does it confirm or challenge them?
* What are the key insights and arguments of the paper?
* What are the strengths and weaknesses of the study?

An example structure of the literature review:

* Introduction to explain the purpose of the review and the motivation of the research topic
* Body paragraphs to compare the literature (e.g. their main insights, arguments and conclusions)
  + Typically organised by themes or dates/periods
  + Themes could be split by topic questions or methodologies
* Conclusion to summarise the main agreements and disagreements, any gaps or areas for further work, and your overall viewpoint on the topic

**Searching for relevant papers**

* [https://scholar.google.com/](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fscholar.google.com%2F&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517621985%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=KgOIHkZmhgKZ6R7rkHjKfMm%2FQOl3AoVVHTZ7SNBHK6o%3D&reserved=0)
* [https://www.jstor.org/](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.jstor.org%2F&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517631984%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=McgBx9l3%2BZ4gwBlPTdbdaO94epZSE189wasWMDyL6QM%3D&reserved=0)
* [https://www.ebsco.com/products/research-databases](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ebsco.com%2Fproducts%2Fresearch-databases&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517631984%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=BeUew3qpD06Smawn1AgEY9jHc1QrCnhIt8vEilPtPjo%3D&reserved=0)

Example papers that you could use

* [https://link.springer.com/chapter/10.1007/978-3-319-05912-9\_11](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Flink.springer.com%2Fchapter%2F10.1007%2F978-3-319-05912-9_11&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517641976%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=wTdGcXDhuacdSg4nDatVVQnXn8IZV1TMfn05aPJHPzI%3D&reserved=0) (Twitter sentiment analysis)
* [https://search.proquest.com/openview/966827dbd4e94e543dbdfe642aed4536/1?pq-origsite=gscholar&cbl=1976349](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsearch.proquest.com%2Fopenview%2F966827dbd4e94e543dbdfe642aed4536%2F1%3Fpq-origsite%3Dgscholar%26cbl%3D1976349&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517641976%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=AIJwod7tmQmHoheMkdEJrBxrwRd3ZT2p3DUIUzWVD4E%3D&reserved=0) (Sentiment analysis)
* [https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=893141](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpapers.ssrn.com%2Fsol3%2Fpapers.cfm%3Fabstract_id%3D893141&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517651974%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=H0oPorigHBM3AwdShmqiz9o0PKZCqBze1XY46aWI%2FKE%3D&reserved=0) (Patterns in stock prices)
* [https://www.researchgate.net/profile/Kumkum\_Garg2/publication/238747905\_A\_Hybrid\_Machine\_Learning\_System\_for\_Stock\_Market\_Forecasting/links/00b7d53b4cfc215d81000000/A-Hybrid-Machine-Learning-System-for-Stock-Market-Forecasting.pdf](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.researchgate.net%2Fprofile%2FKumkum_Garg2%2Fpublication%2F238747905_A_Hybrid_Machine_Learning_System_for_Stock_Market_Forecasting%2Flinks%2F00b7d53b4cfc215d81000000%2FA-Hybrid-Machine-Learning-System-for-Stock-Market-Forecasting.pdf&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517651974%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=canoUY2iu5bceuIbqavkLZ%2BMTD26rNCNf1ztOA1dKCo%3D&reserved=0) (GA and SVM)
* [https://www.sciencedirect.com/science/article/abs/pii/S0957417418305761](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.sciencedirect.com%2Fscience%2Farticle%2Fabs%2Fpii%2FS0957417418305761&data=04%7C01%7C%7C2a9d8133c5084949237b08d8c6c177af%7C1faf88fea9984c5b93c9210a11d9a5c2%7C0%7C0%7C637477881517661969%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=bZjM3sgMg2cfijYTLGZ2MT571gSJ4JS5PBAzFzBGQOQ%3D&reserved=0) (Financial network indicators)

**Assignments**

Please email me:

* A short literature review (4-5 sources, 5 pages max)
  + Deadline: 15th
* A few ideas (methods and topic questions) that you would like to explore
  + Deadline: Preferably 10th (then we can hold our brainstorming meeting before the week of 15th with the aim of starting the project that week)