BDT 2024 - Projects

REMARKS:
- All projects are about designing and implementing big data systems.
- We expect you to use big data technologies that you learned throughout the course (you could solve the problem without BDT, but this wouldn't lead to a decent score).
- We welcome (and reward) projects that use creative, non-trivial approaches to the problems at hand.
- For each project, you have to identify potentially relevant input data (and sources thereof).
- We suggest you consider potential (real) data sources, to better understand the challenges of what happens 'in the wild' and to make the problem more concrete. Real data is great, but in case this is not feasible (for reasons to be explained within the project report), consider building synthetic (yet realistic-looking) datasets. Consider checking Kaggle, HuggingFace or similar platforms for relevant datasets.
- Data exploration and design is something you can start working on right away. For the implementation part, there may be relevant technologies that you still have to see in class (so don't hurry coding right away, first think, then act).
- Demos (with real data whenever possible) are **highly appreciated**.
- Remember that you can swap projects among teams - just get an agreement no later than 15/5 EOB and inform us by email (with all team members involved in CC).
- We will provide you details about the report (5 pages) and how to share the code later on - no need to worry (yet) about them.
- **Last, but not least: projects include details such as potential approaches, metrics, functionality etc. These are just suggestions, do not consider them as mandatory.**

PROJECT INSTRUCTION :

Energy Consumption Forecasting: Develop a system for forecasting energy consumption patterns at both macro and micro levels. Utilize data from smart meters, weather forecasts, historical consumption data, and other relevant sources to predict future energy demand. Implement machine learning algorithms to identify trends, patterns, and anomalies in energy consumption, helping utilities optimize energy production and distribution.