

TDS Project: part 3- Research Project Proposal Instructions

In the research part of the project you need to suggest a new method for improving or automating a specific element within the data science pipeline. You are encouraged to recall the 2 first parts of the projects- and think of difficulties that you came across.

1. Topic Selection

The data science “elements” can be anywhere in one (or more) of the following domains:

1. Exploratory Data Analysis: e.g., Data visualizations, fitting to theoretical distributions, distribution distances
 2. Pattern mining: e.g., Association rules mining, interestingness analysis of patterns
 3. Predictive model analytics: evaluation metrics, feature selection & engineering, analysis of model faults and mispredictions
 4. Explainability / Fairness
 5. Any other element listed in the current syllabus or taught in class
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2. Research proposal Structure

Use the same titles as below, English only:

1. Project’s Goal - Please be as specific as possible:
 1. What element in the DS pipeline are you trying to improve?

2. Why the chosen element needs improvement?
 3. What are the desired results?
 4. What is the relation/connection to the material we learn in class?
2. Your solution:
1. List one or two initial ideas for a solution — this should be very broad and only describe what are you planning to investigate
 2. Propose ways or functions to measure your solution, you can refer to metrics used in other works that tried to solve a similar problem.
3. Related work:
1. List 2-3 related works - preferably academic papers but also GitHub repositories or Medium posts are accepted.
4. Experiments plan (you should test on at least 4 different datasets):
1. How do you plan to test the effectiveness/usefulness of your solution?
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3. Proposal Submission

1. Send the proposal by email as a Google Doc, by 03/02/25.
 2. Email: itay.elyashiv@gmail.com
 3. Don't forget to add comments permissions to the Google Doc.
 4. I may write comments for you to address and notify you. Check the comments, fix accordingly, and notify me that you've fixed them.
 5. Once the proposal is approved, register your team and project details in the Class' Google Sheet (see link in Moodle)
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For special requests, email me- itay.elyashiv@gmail.com