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TAKE-HOME ASSIGNMENT

INTRODUCTION

This take-home assignment is designed to test your skills in data science and presentation. You will be presenting the results of your analysis in a virtual interview. Your final submission should include **A)** a pdf document containing your **code** in markdown and **B)** a pdf document containing **slides** highlighting your approach and results.

SITUATION

A Polish client is providing insurance services in the context of bankrupt companies. The client would like you to predict the likelihood of companies to go bankrupt based on financial characteristics. To help you with your task, you should use the provided historical data on company survival

1. BANKRUPTCY PREDICTION USING FULL DATA

Suppose your task is to predict the chance of bankruptcy after 1, 2 and 3 years from the features in the data set. How would you approach building a model and which techniques do you consider? Please train a model and document how well it performs.

2. SELECTION OF IMPORTANT FEATURES

In reality, only a small number of features will be directly accessible, and gathering additional features is costly. How do you approach selecting the features with the highest predictive power for company bankruptcy? Which relations do you find?

3. SELECTION OF MODEL

What should guide your choice of model in addition to evaluation metrics (e.g. model training duration)? How would you help the client in making the best choice of model?

4. MODEL SERVING

Your client wants to use your model to serve insights in a dashboard primarily used by their risk managers. What steps do you need to take to make this happen?

OPTIONAL: provide some example code for model serving

5. PRESENTATION

Please prepare a submission in the format discussed in the introduction. You should mention the techniques you considered and the thoughts behind your evaluation in a way that could be presented to the client. Ideally, your slides will serve as a starting point for further discussion of your analysis.