CTU CZECH TECHNICAL UNIVERSITY IN PRAGUE

THESIS SUPERVISOR'S REPORT

I. IDENTIFICATION DATA

Thesis title: Data-Driven Sequential Dynamic Pricing in Mobility

Author's name: Ondřej Stejskal

Type of thesis: bachelor

Faculty/Institute: Faculty of Electrical Engineering (FEE)

Department:Department of CyberneticsThesis reviewer:Ing. Michaela Urbanovská

Reviewer's department: Department of Computer Science

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment challenging

How demanding was the assigned project?

The assignment was in my opinion challenging. The student was tasked with the analysis of raw scraped data and to implement domain specific heuristics based on this data. In my opinion, either of these tasks could have been enough for a separate bachelor thesis.

Fulfilment of assignment

fulfilled

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The student has fulfilled all the objectives, some to a lesser degree through no fault of his own. During the project, the collected dataset proved to be a weakness of the project, yielding too little usable data after cleaning and preparation. Because of this, we agreed to focus in developing heuristics based on the structure of the data instead of collecting additional data points, which satisfies the assigned objective.

Activity and independence when creating final thesis

B - very good.

Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.

The student worked independently on the thesis, attending regular meetings, and discussing updates. While the progress was slow at times, the student managed to write most of the thesis well before the deadline.

Technical level B - very good.

Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?

The technical level of the thesis is good, the student has shown a good understanding of the used methods and has on his own proposed a varied array of heuristics, using different techniques with different performance tradeoffs.

Student provides clear explanations of the heuristics he has implemented.

In the chapter 6 dedicated to experiments, the description of the domain could have been better, possibly presenting the problem domain more vividly, e.g. by including the number of products used in the experiments as well.

The results the student obtained are somewhat counterintuitive. Unfortunately, the delayed timeline didn't permit investigation of reasons for these results.

Formal level and language level, scope of thesis

A - excellent.

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The student shows good command of written English, with few typos and styling or grammar errors (e.g. page 31, text implies positioning of table after the third paragraph of Section 6.2.1). The students writing is easy to understand, if sometimes somewhat repetitive. Most concepts are explained clearly and concisely to an appropriate depth. This is well shown in the theoretical chapter.



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The formalism is consistent and facilitates understanding of the work. Minor caveat is the use of lower case "t" for both tree nodes in Chapter 3 and timesteps in Chapter 4, but it's always clear what the author means, so this is not a big issue. Overall, the thesis has a reasonable structure and seems well written.

Selection of sources, citation correctness

B - very good.

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

The student uses enough references and his own contribution is clearly separated in its own chapter. A minor imperfection is the framing of the work in the state-of-the-art which seems somewhat superficial.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

Student was able to refocus his work and the whole thesis after the discovery that the suggested dataset was not viable for the intended purpose. Despite this setback, student managed to prepare a high-quality thesis.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Student's submitted a high-quality thesis with only a few minor imperfections.

The grade that I award for the thesis is **B** - very good.

Date: **1.6.2021** Signature: Jan Mrkos