



# Supervisor's statement of a final thesis

**Supervisor:** Rodrigo Augusto da Silva Alves, Ph.D.  
**Student:** Ondřej Herman  
**Thesis title:** Machine Learning-Based Prediction of Football Match Statistics  
**Branch / specialization:** Knowledge Engineering  
**Created on:** 12 June 2023

## Evaluation criteria

### 1. Fulfillment of the assignment

- ▶ [1] assignment fulfilled
- [2] assignment fulfilled with minor objections
- [3] assignment fulfilled with major objections
- [4] assignment not fulfilled

The student proposes to explore machine learning methods for predicting football match statistics. While predicting football match outcomes is a popular area of research, there is relatively less emphasis on predicting statistics such as the number of cards or corner kicks. To fulfill the requirements, the student conducts a search across four datasets.

### 2. Main written part 95 /100 (A)

The thesis demonstrates good writing and organization. The student has effectively included a well-rounded related work section, carefully selected a comprehensive set of methods, and provided a thorough discussion of the results.

### 3. Non-written part, attachments 98 /100 (A)

The code exhibits a high level of organization and adheres to good software engineering practices. The files are well structured, making it easy to navigate and follow the provided instructions.

### 4. Evaluation of results, publication outputs and awards 96 /100 (A)

To provide a comprehensive assessment in terms of practical application, it would be essential to compare the predictions with actual betting odds. However, considering the relatively limited exploration in this field, there is an opportunity to publish the results of the thesis in a related venue, as it contributes to filling the existing gap. It is worth noting

that further refinements are required to enhance the research findings and their applicability before submission.

## 5. Activity of the student

- ▶ [1] excellent activity
- [2] very good activity
- [3] average activity
- [4] weaker, but still sufficient activity
- [5] insufficient activity

The student started late on the development of the thesis due to their participation in an international exchange program. Despite this problem, the student demonstrated a strong sense of responsibility by consistently attending consultations, being punctual, and coming prepared.

## 6. Self-reliance of the student

- ▶ [1] excellent self-reliance
- [2] very good self-reliance
- [3] average self-reliance
- [4] weaker, but still sufficient self-reliance
- [5] insufficient self-reliance

The student worked hard and always met deadlines. He was also good at communicating during meetings and were able to work independently by following instructions and suggesting solutions.

## The overall evaluation

96 /100 (A)

How can a solution be developed to improve the prediction of rare events in football, such as the number of yellow and red cards?

Does your solution have potential for application in predicting statistics for sports other than football?

## **Instructions**

### **Fulfillment of the assignment**

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

### **Main written part**

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 52/2021, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

### **Non-written part, attachments**

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

### **Evaluation of results, publication outputs and awards**

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

### **Activity of the student**

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations.

### **Self-reliance of the student**

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

### **The overall evaluation**

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.