

Abstract

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Chapter 1

Introduction

1.1 Motivation

1.2 Aims

1.3 Methodology

Chapter 2

Literature Review

This chapter aims to present the current state of research in two different domains. The first is about predicting sporting events using machine learning. The latter examines the field of sports betting with a particular focus on betting odds and how they can be used to predict events in the future.

The established guidelines of Brocke et al., 2015 and Webster and Watson, 2002, were used to determine the research status and respectively document the literature search process. As stated by Webster and Watson, two types of literature reviews exist. This literature review belongs to the second type, which is, according to Webster and Watson, in general, shorter and where *'authors [...] tackle an emerging issue that would benefit from exposure to potential theoretical foundations'* (Webster and Watson, 2002, p. 14). First, as recommended by Brocke et al., the literature search process is documented as accurately as possible to facilitate future research on this topic. Then, the literature found is summarised in a concept matrix according to Webster and Watson and examined according to specially selected criteria. On this basis, research gaps get identified, and finally, the research question for this thesis gets formulated.

Chapter 3

SPITCH

3.1 General

3.2 Game Rules

3.3 Scoring System

3.4 Competitors

Chapter 4

Data

4.1 Used Data

4.2 Descriptive Analytics

4.3 Data Preparation

Chapter 5

Modelling

5.1 Optimization

5.2 Prediction

Chapter 6

Machine Learning

6.1 Feature Selection

6.2 Model Selection

6.3 Model Training

Chapter 7

Evaluation

7.1 Combinatorial Model

7.2 Machine Learning Model

7.3 Performance Comparison

Chapter 8

Conclusion

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Source Code

Bibliography

- [1] Jan vom Brocke et al. “Standing on the Shoulders of Giants: Challenges and Recommendations of Literature Search in Information Systems Research”. en. In: *Communications of the Association for Information Systems* 37 (2015). ISSN: 15293181. DOI: 10.17705/1CAIS.03709. URL: <https://aisel.aisnet.org/cais/vol37/iss1/9/> (visited on 07/16/2021).
- [2] Jane Webster and Richard T Watson. “Guest Editorial: Analyzing the Past to Prepare for the Future: Writing a literature Review”. en. In: (2002), p. 11.

Appendix A

A.1 Diagrams

A.2 Tables

A.3 Screenshots

A.4 Graphs

Decleration of Authenticity

I declare that I wrote this thesis on my own and did not use any unnamed sources or aid. Thus, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due reference is made by correct citation. This includes any thoughts taken over directly or indirectly from printed books and articles as well as all kinds of online material. It also includes my own translations from sources in a different language. The work contained in this thesis has not been previously submitted for examination. I also agree that the thesis may be tested for plagiarized content with the help of plagiarism software. I am aware that failure to comply with the rules of good scientific practice has grave consequences and may result in expulsion from the program.

Berlin, 13/09/2021

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