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In Collaboration with

UNIVERSITY OF WESTMINSTER

Virtual Coach

A Win predictor with a Generalized framework

(Real-time analysis)

A Thesis by

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Abstract

The main goal of this thesis is to develop a machine learning-based software for video game win prediction. The complexity of the gaming environment, which contains a wide range of variables and unpredictable player behavior, makes it difficult to forecast a team's win in a video game. The objective of this study is to create a model that can assess game data in real-time and offer precise win predictions.

The technical portion of this study entails analyzing game data and identifying the critical elements that lead to a team's success using machine learning methods, particularly logistic regression. The model is regularly updated using real-time data to increase its accuracy after being trained on a sizable dataset of prior game matches. With a focus on testing and evaluation, the development technique combines the Waterfall model with Agile approach.

The technical side of this study comprises applying machine learning techniques, specifically logistic regression, to analyze game data and pinpoint the crucial components that contribute to a team's performance. After being trained using a substantial dataset of previous game matches, the model is periodically updated using real-time data to improve its accuracy. The development methodology blends the Agile approach with the Waterfall model with a focus on testing and assessment.

Keywords - Sports analytics, Data mining, Performance analysis, Machine learning, Prediction models, Training optimization, Talent development

Subject Descriptors

- Computing methodologies > Machine learning > League of legends > Naive Bayes
- Machine learning > Algorithms > Naive Bayes > Gaussian BG