Department of Electrical and Computer Engineering
North South University

Senior Design Project

European Football Player Price Prediction Using Machine Learning

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Assistant Professor

ECE Department

Spring, 2023

LETTER OF TRANSMITTAL

November, 2023

To

Dr. Rajesh Palit
Chairman,
Department of Electrical and Computer Engineering
North South University, Dhaka

Subject: **Submission of Capstone Project Report on "European Football Player Price Prediction Using Machine Learning"**

Dear Sir,

With due respect, we would like to submit our **Capstone Project Report** on **"European Football Player Price Prediction Using Machine Learning"** as a part of our BSc program. The report deals with price for European football player. This project was very much valuable to us as it helped us gain experience from practical field and apply in real life. We tried to the maximum competence to meet all the dimensions required from this report.

We will be highly obliged if you kindly receive this report and provide your valuable judgment. It would be our immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

S M Minhazur Rahman
ECE Department
North South University, Bangladesh

Rifatul Islam Ovi
ECE Department
North South University, Bangladesh

Ashfe Asade Simon
ECE Department
North South University, Bangladesh

Anika Shama Siddique
ECE Department
North South University, Bangladesh

APPROVAL

S M Minhazur Rahman (ID: 1821822642), Rifatul Islam Ovi (ID: 1821197642), Ashfe Asade Simon (ID: 1911962642) and Anika Shama Siddique (ID: 1911918642) from Electrical and Computer Engineering Department of North South University, have worked on the Senior Design Project titled "**European Football Player Price Prediction Using Machine Learning**" under the supervision of Dr. Riasat Khan partial fulfillment of the requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

Supervisor's Signature

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Dr. Mohammad Ashrafuzzaman Khan (AZK)

Assistant Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

Chairman's Signature

…….

Dr. Rajesh Palit

Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

DECLARATION

This is to declare that this project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. All project related information will remain confidential and shall not be disclosed without the formal consent of the project supervisor. Relevant previous works presented in this report have been properly acknowledged and cited. The plagiarism policy, as stated by the supervisor, has been maintained.

Students' names & Signatures

1. S M Minhazur Rahman

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2. Rifatul Islam Ovi

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3. Ashfe Asade Simon

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3. Anika Shama Siddique

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ABSTRACT

European Football Player Price Prediction Using Machine Learning

In most sports, especially football, most coaches and analysts search for key performance indicators using notational analysis. The prediction of European football player prices is an important task for clubs, agents, and investors in the football industry. Making informed judgments about player transfers, contract negotiations, and investments is made possible by accurate price projection. The opportunity to create data-driven models for player price prediction has arisen in recent years due to the accessibility of enormous volumes of player performance data and market information. There are certain factors that influence player prices including individual statistics, age, position, market value and others. Traditionally predictions are made on the basis of these factors. Machine Learning techniques have been a significant source of advanced opportunities to analyze, predict and visualize player prices. In this paper, we estimate players' market values using four regression models that were tested on the full set of features—linear regression, XG boost, AdaBoost, SVR, Gradient Boosting, and random forests. The dataset containing 19,240 records of Football Player is attained from European Football League and Country. In addition, we want to analyze the information and identify the key elements influencing the estimation of the player market value. For predicting the market values of the players, random forest performed better than other algorithms. In comparison to the baseline, it has the best accuracy score and the lowest error ratio.