INFOSYS

SPRINGBOARD 6.0

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01 TITLE & OVERVIEW

Title

Dynamic Player Transfer Value Prediction using AI & Multi-Source Data

Overview

- Developed By: Aman Singh
- Under Guidance of Mentor: Pranaya
- Duration: Aug 2025 – Oct 2025
- Tools Used: Python | TensorFlow | XGBoost | Streamlit | Plotly | Pandas | NumPy.

02 PROBLEM STATEMENT & OBJECTIVES

PROBLEM STATEMENT

- Player market values fluctuate based on multiple factors (performance, injury, club status, sentiment).
- Clubs lack a unified, data-driven system for transfer valuation.

OBJECTIVES

- Predict real-time player transfer value using performance & sentiment data.
- Build a machine learning model (LSTM & XGB) for accurate market value forecasting.
- Develop a Streamlit app for live predictions.

03 DATA COLLECTION & PREPROCESSING

01

Sources:

- Kaggle football data, transfermarkt-based datasets, and social sentiment data.

02

Features Used:

- 13 total: Goals, Assists, Minutes Played, Transfers, Club Prestige, Contract Years, Sentiments, etc.

03

Processing Steps:

- Scaling, normalization, missing value treatment.
- Log-transform of transfer value for stability.
- Sequence generation for time-based modeling.

04

Visual:

A simple diagram showing true data VS model predicted data.

04

MODEL DEVELOPMENT & OPTIMIZATION

MODELS TRIED:

- Baseline Multivariate LSTM
- RMSE: 0.7744 | MAE: 0.6337 | R^2: 0.1382
- Hyperparameter-Tuned LSTM
- RMSE: 0.6592 | MAE: 0.493 | R^2: 0.3756
- XGBoost Ensemble
- Initial: $R^2 = -0.04 \rightarrow$ Final: $R^2 = 0.1444$ after tuning.

TECHNIQUES USED:

- Learning rate tuning, optimizer selection
- Comparison of ensemble vs time series learning models

VISUAL:

Bar chart of model performance comparison (RMSE, MAE, R^2)

05

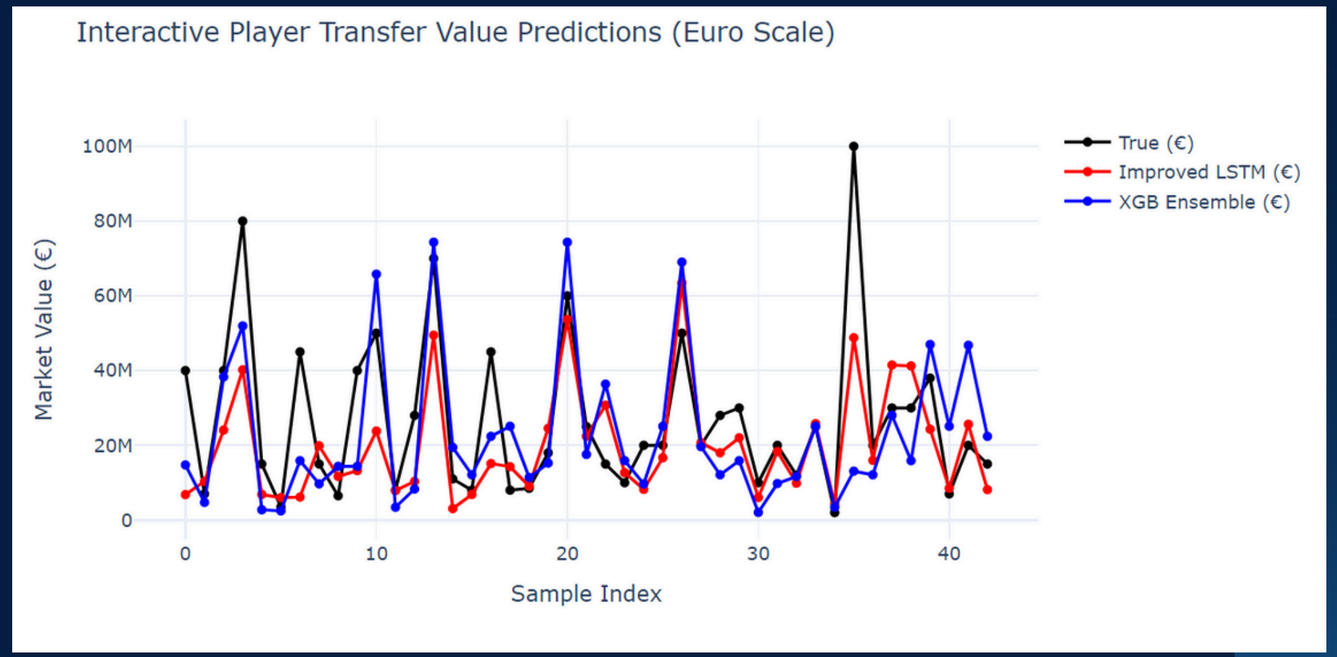
RESULTS & VISUALIZATION

Highlights:

- Improved accuracy using tuned multivariate LSTM
- Model learns time-dependency between market performance & injury/sentiment
- Streamlit app visualizes and predicts transfer value instantly

Visuals:

- Streamlit interface
- Plotly chart comparing predicted vs actual transfer value.



06

DEPLOYMENT & CONCLUSION

- Deployed using Streamlit (app.py).
- Understood LSTM temporal modeling
- Gained practical experience with ensemble methods (XGB, Stacking).
- Learned hyperparameter tuning & deployment pipeline.

THANK YOU

CONTACT

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