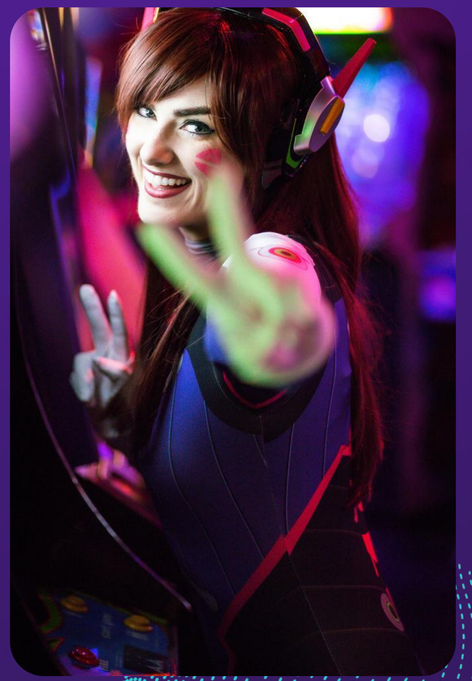
Killstreak Predictor: League of Legends 2024



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Introduction

Problem Statement

- Predict the number of kills a player achieves in a League of Legends (LoL) match 2024, utilizing player performance, champion selection, and team dynamics as predictors.

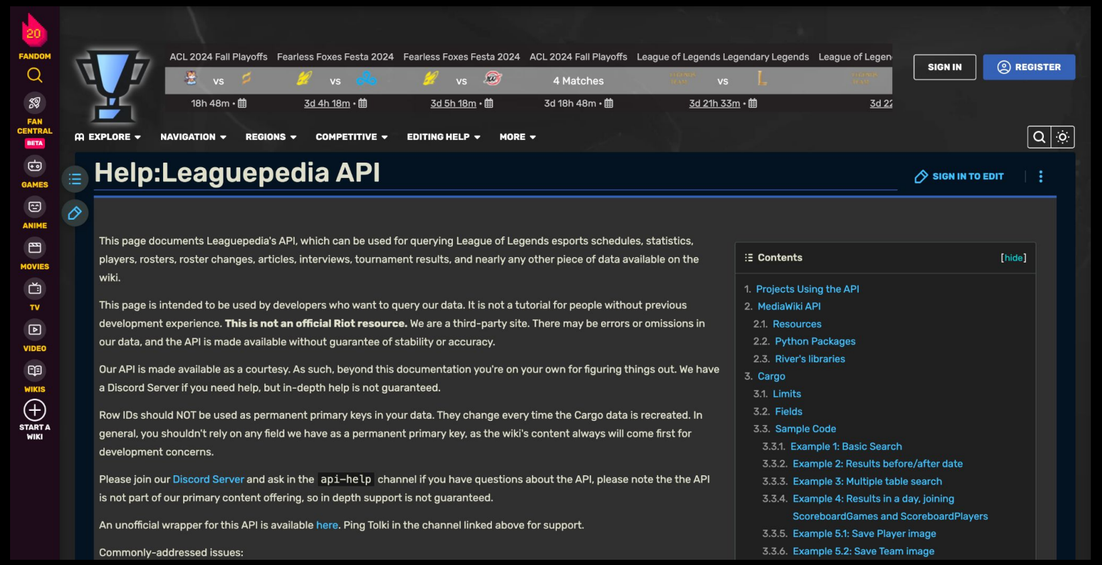
Motivation

- Kills reflect player impact and contribution to team success.
- Accurate predictions can:
  - Optimize team strategies for specific players.
  - Provide insights for fans, analysts, and esports professionals.
  - Influence player valuation for contracts and salaries.

Data Overview

Data Collection & Processing

- Player-specific metrics
- Match-specific metrics
- Champion-specific factors
- Total: 25 features selected

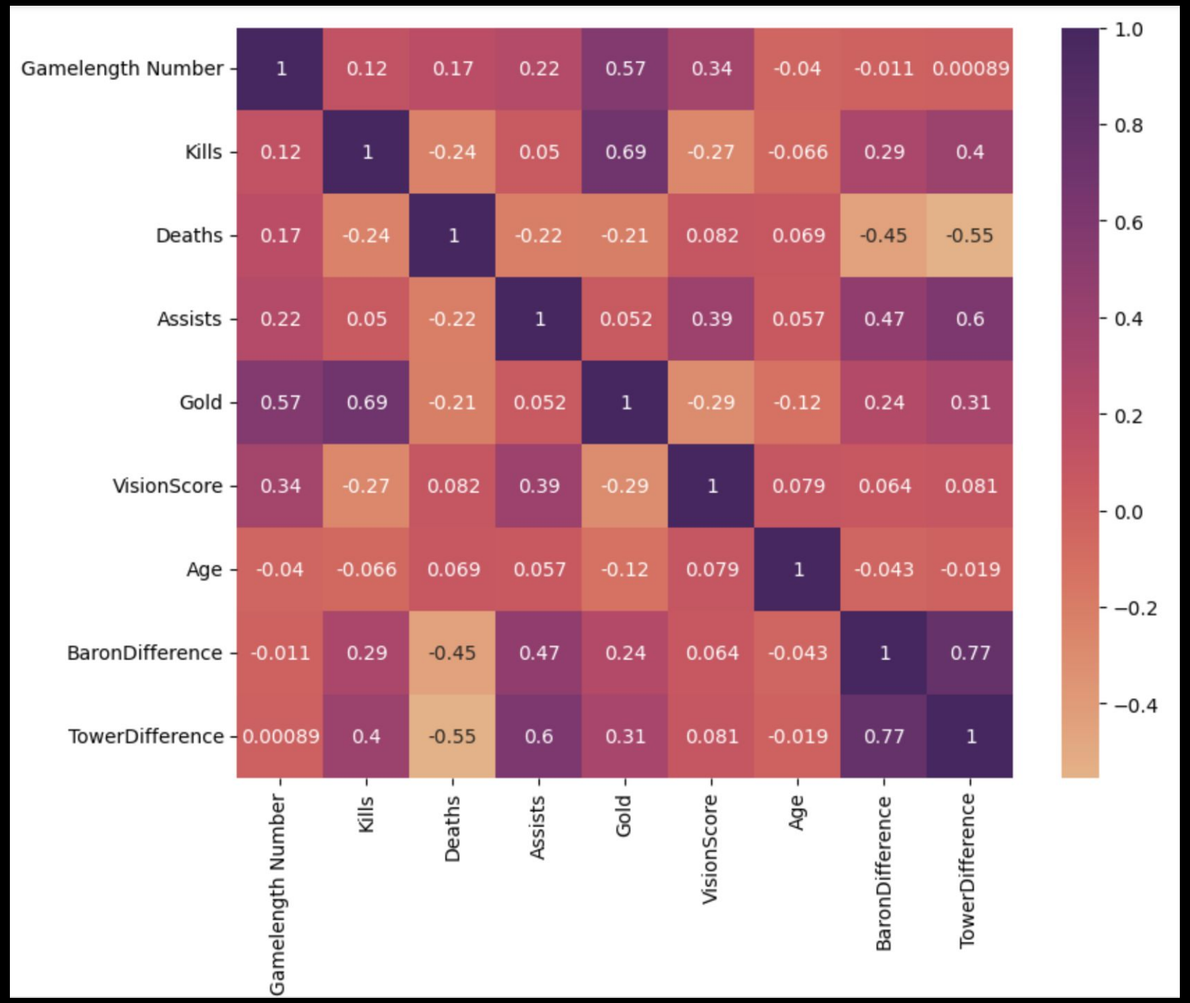


- **Sources**: Leaguepedia API, LOL Fandom, esports platforms
- **Processing**:
  - Store data in “LOL_matchdata_2024.csv"
  - Create new columns combining relevant information (eg. “BaronDifference”, ”TowerDifference”)
  - Remove observations with NULL values in “Age” and “Country”

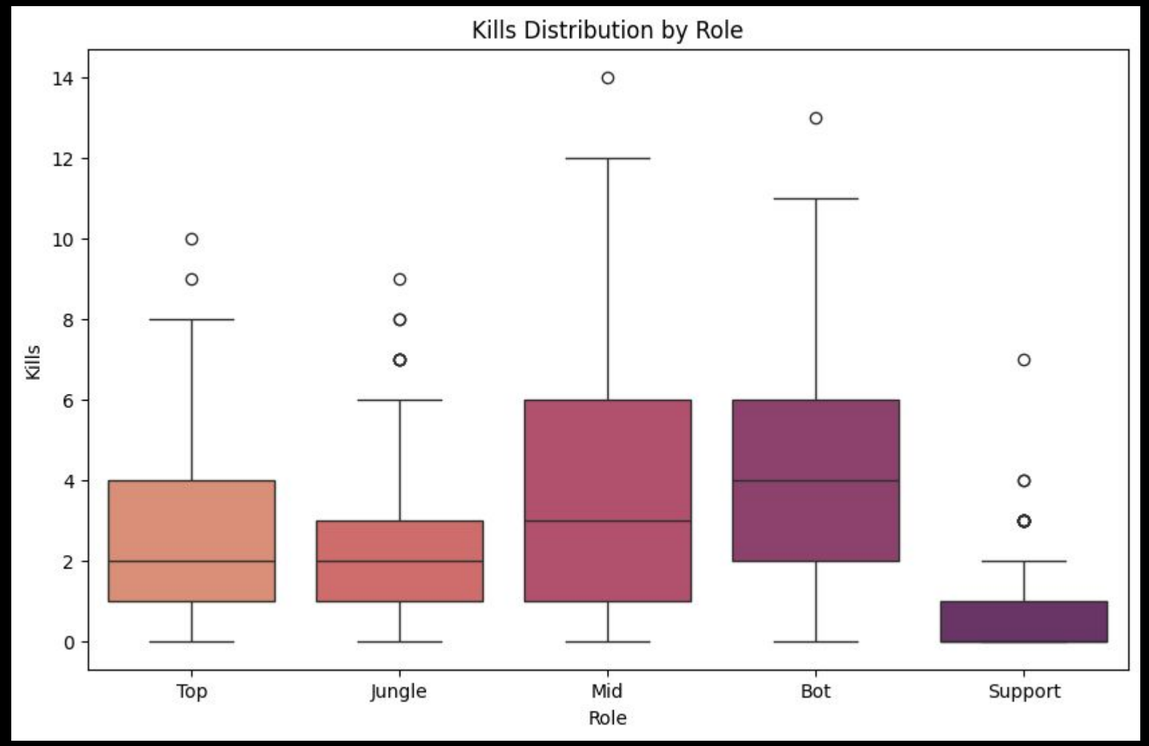
EDA

Gamelength Number	3.534171
Deaths	1.499539
Assists	1.585298
Gold	3.558347
VisionScore	2.342074
BaronDifference	1.681832

VIF



Mid and Bot have relatively more kills



Methodology

- Linear Regression
- Decision Tree
- Logistic Regression *TBC...*
- LDA *TBC...*

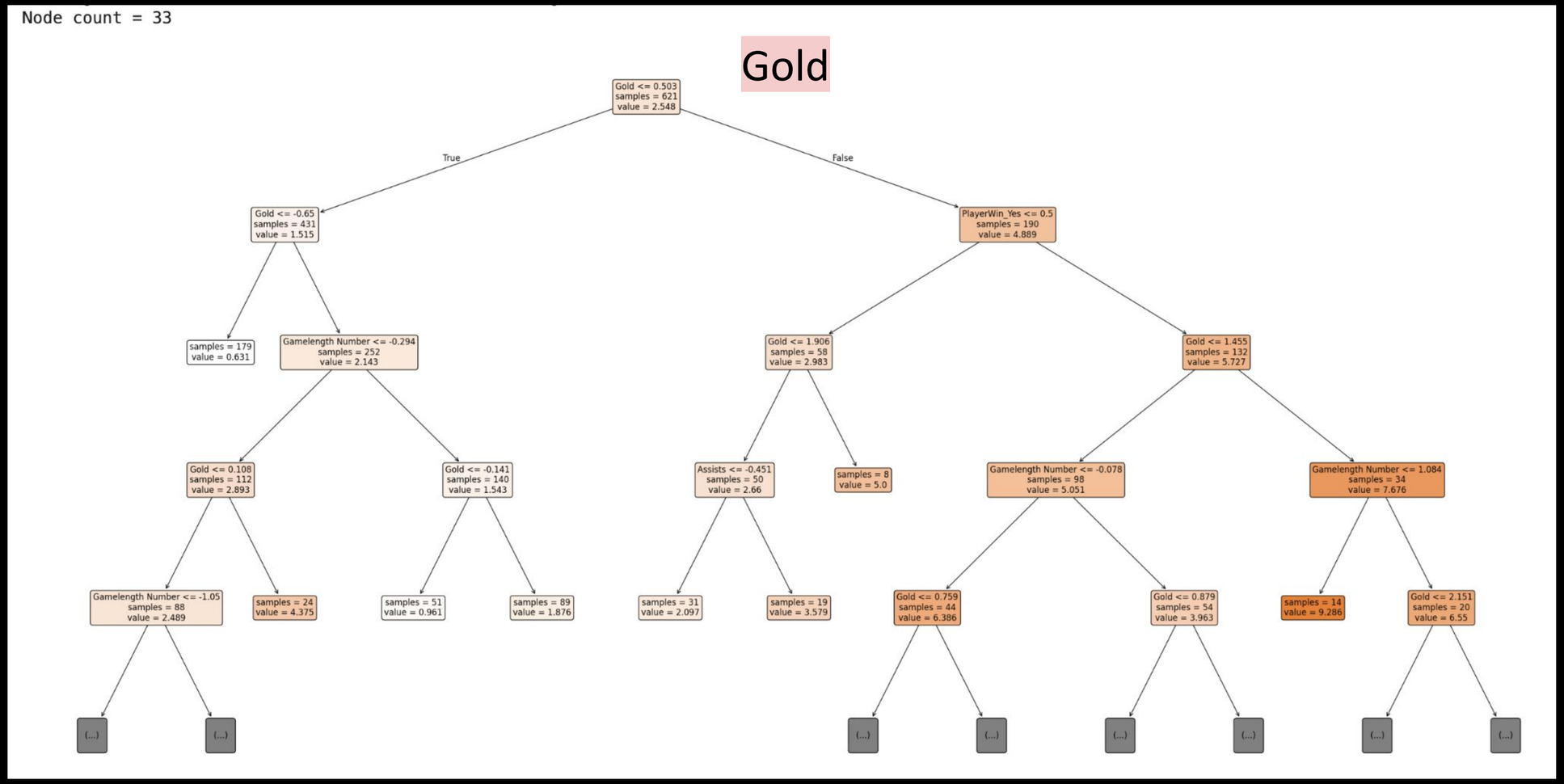
Linear Regression

OLS Regression Results

Dep. Variable:	Kills	R-squared:	0.708
Model:	OLS	Adj. R-squared:	0.676
Method:	Least Squares	F-statistic:	22.19
Date:	Tue, 10 Dec 2024	Prob (F-statistic):	2.85e-113
Time:	06:15:03	Log-Likelihood:	-1080.4
No. Observations:	621	AIC:	2285.
Df Residuals:	559	BIC:	2560.
Df Model:	61		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	3.6933	0.878	4.207	0.000	1.969	5.418
Gamelength Number	-1.8441	0.145	-12.751	0.000	-2.128	-1.560
Deaths	0.4451	0.080	5.542	0.000	0.287	0.603
Assists	-0.2744	0.095	-2.877	0.004	-0.462	-0.087
Gold	3.4622	0.171	20.273	0.000	3.127	3.798
VisionScore	0.5318	0.157	3.379	0.001	0.223	0.841
BaronDifference	-0.3013	0.105	-2.858	0.004	-0.508	-0.094
Role_Jungle	0.9385	0.299	3.140	0.002	0.351	1.526
Role_Mid	-0.2189	0.274	-0.800	0.424	-0.757	0.319
Role_Support	1.4087	0.478	2.947	0.003	0.470	2.348
Role_Top	-0.0996	0.303	-0.329	0.742	-0.694	0.495

Decision Tree



OSR^2 = 0.509

Thanks!