

League of Legends : Analyse des parties des joueurs professionnels

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Business Intelligence & User Modelling

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2. Source de données
3. Méthodologie d'analyse
4. Machine Learning

Contexte



- 5 Vs 5
- Détruire le camps adverse
- Acheter des objets
- Tuez adversaires
- Plus de 64 millions d'heures visionner
- Plus 4 millions de fans
- A généré plus de 1.75 Milliards de Dollar

Problématique

Comment et pourquoi gagne-t-on un match de League Of Legends
à très haut niveau ?

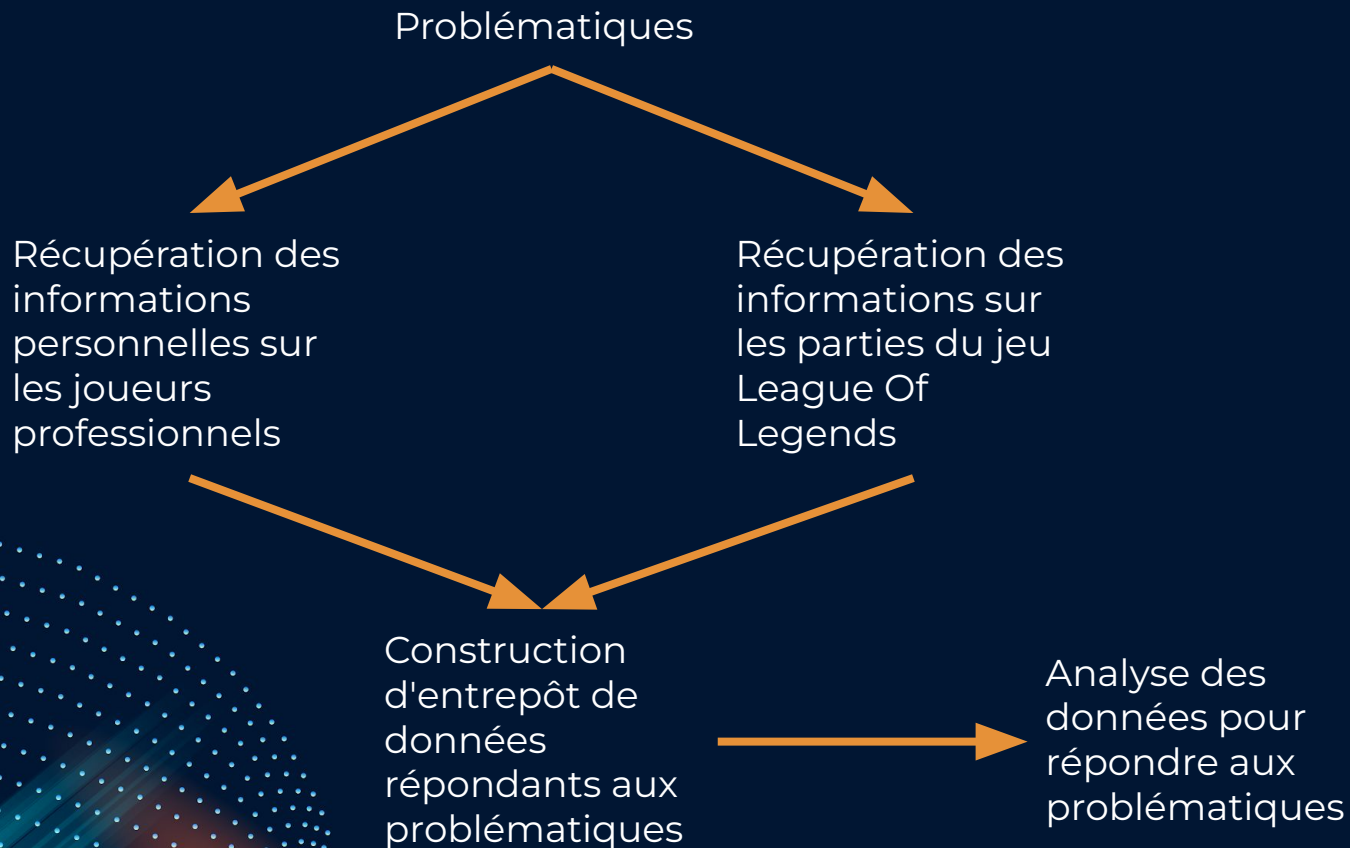
Axe d'étude

1. Prévoir les changements de tactiques et de comportement des joueurs en général et par pays.
2. Prévoir les potentiels rééquilibrages du jeu
3. Créer un meilleur système de matchmaking

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Besoin en données



Les joueurs

MagiFelix Misfits Gaming




Player Info

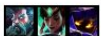
Rank

Challenger 1,880LP

Role

Mid 


Most Played




Name

Felix Boström


Birthplace

Sweden 

Residency

Europe 

Team

Misfits Gaming 











Birthday

February 27, 2000 (22)

Contract

November 15, 2021

Profil joueur

Player	Role	Team	Current Region	Highest Rank	LP	Accounts	In Game
Follow MagiFelix	Mid (Sub)	 Misfits Gaming	Europe	Challenger	1,880	5	
Follow knight	Mid	 Top Esports	China	Challenger	1,695	4	
Follow UNFORGIVEN	ADC	 MAD Lions	Europe	Challenger	1,654	7	
Follow Bo	Jungle		China	Challenger	1,588	3	3 minutes
Follow Canyon	Jungle	 DWG KIA	Korea	Challenger	1,575	4	30 minutes
Follow ShowMaker	Mid	 DWG KIA	Korea	Challenger	1,552	5	
Follow Wei	Jungle	 Royal Never Give Up	China	Challenger	1,549	2	
Follow Sword (NA)	Support	 100 Thieves Next	North America	Challenger	1,532	1	
Follow Ablazeolive	Mid	 Golden Guardians	North America	Challenger	1,519	3	
Follow Hyoga	Jungle		Brazil	Challenger	1,502	1	
Follow ON	Support	 Weibo Gaming	China	Challenger	1,500	3	
Follow Duro	Support	 Liiv SANDBOX Challengers	Korea	Challenger	1,492	1	

Base de données de tracking the pros

Les joueurs

```
1  ,id,name,role,age,country,residency,server,summoner_names
2  0,0,labrov,Support,20,Greece,Europe,EUW,['school phobia', 'Amelda']"
3  1,1,Evrot,Mid,MISSING,Brazil,Brazil,BR,['mid gap sorry']
4  2,2,knight,Mid,21,China,China,KR,['2639443464873088', 'knightt', 'xbtb']"
5  3,3,Razork,Jungle,21,Spain,Europe,EUW,['Razørk Activoo', 'ArribaSBuyakote']"
6  4,4,MagiFelix,Mid,22,Sweden,Europe,EUW,['MagiFelix5', 'MagiFelix']"
7  5,5,Bo,Jungle,19,China,China,KR,['wu guan feng yue']
8  6,6,Grevthar,Mid,MISSING,Brazil,Brazil,BR,['Grevzin']
9  7,7,Hyoga,Jungle,MISSING,Brazil,Brazil,BR,['Twitch Hyogatm']
10 8,8,Ackerman,Support,MISSING,Argentina,Liga Latinoamérica,US,['ACKÈRMAN']
11 9,9,ON,Support,MISSING,China,China,MISSING,[]
12 10,10,Revenge,Top,22,United States,North America,US,['Revenge']
13 11,11,Zeus,Top,18,South Korea,Korea,KR,['T1 Zeus', '우 제']"
14 12,12,Canyon,Jungle,20,South Korea,Korea,KR,['JUGKING', '만족 금지']"
15 13,13,Ablazeolive,Mid,23,Canada,North America,US,['Ablazeolive']
16 14,14,Kirei,Jungle,25,Netherlands,Europe,EUW,['Kirei sama', 'kirei smurfer', 'YourDoggie']"
17 15,15,Chieftain,Jungle,21,South Korea,Korea,KR,['61110002']
18 16,16,Closer,Jungle,MISSING,Turkey,Turkey,US,['Kral Closer']
19 17,17,Gumayusi,ADC,20,South Korea,Korea,KR,['T1 Gumayusi']
20 18,18,Malrang,Jungle,22,South Korea,Korea,EUW,['RGE Malrang']
```

Échantillon des données obtenues

Les parties

STATS STRAIGHT FROM THE SOURCE

ACTIVE GAMES, MATCH HISTORY, RANKED STATISTICS,
AND MUCH MORE AT YOUR FINGERTIPS.

SIGN UP NOW

```
1 gameCreation,gameDuration,gameEndTimestamp,gameId,gameMode,gameName,gameStartTimestamp,gameType,gameVersion,mapId,platformId,queueId,tournamentCode,assists,baronKills,bountyLevel,
2 1648812630000,970,1648813616016,5803019526,CLASSIC,teambuilder-match-5803019526,1648812645497,MATCHED_GAME,12.6.430.6775,11,EUW1,420,,5,0,0,3846,7,526,Rell,0,11,0,0,0,5464,2,7,0,
3 1648810785000,976,1648811776409,5803085882,CLASSIC,teambuilder-match-5803085882,1648810799996,MATCHED_GAME,12.6.430.6775,11,EUW1,420,,2,0,0,4229,8,888,Renata,0,9,0,0,0,5353,5,6,0,
4 1648761974000,1442,1648763435969,5802380209,CLASSIC,teambuilder-match-5802380209,1648761993552,MATCHED_GAME,12.6.430.6775,11,EUW1,420,,19,0,0,8602,12,888,Renata,0,18,288,972,288,
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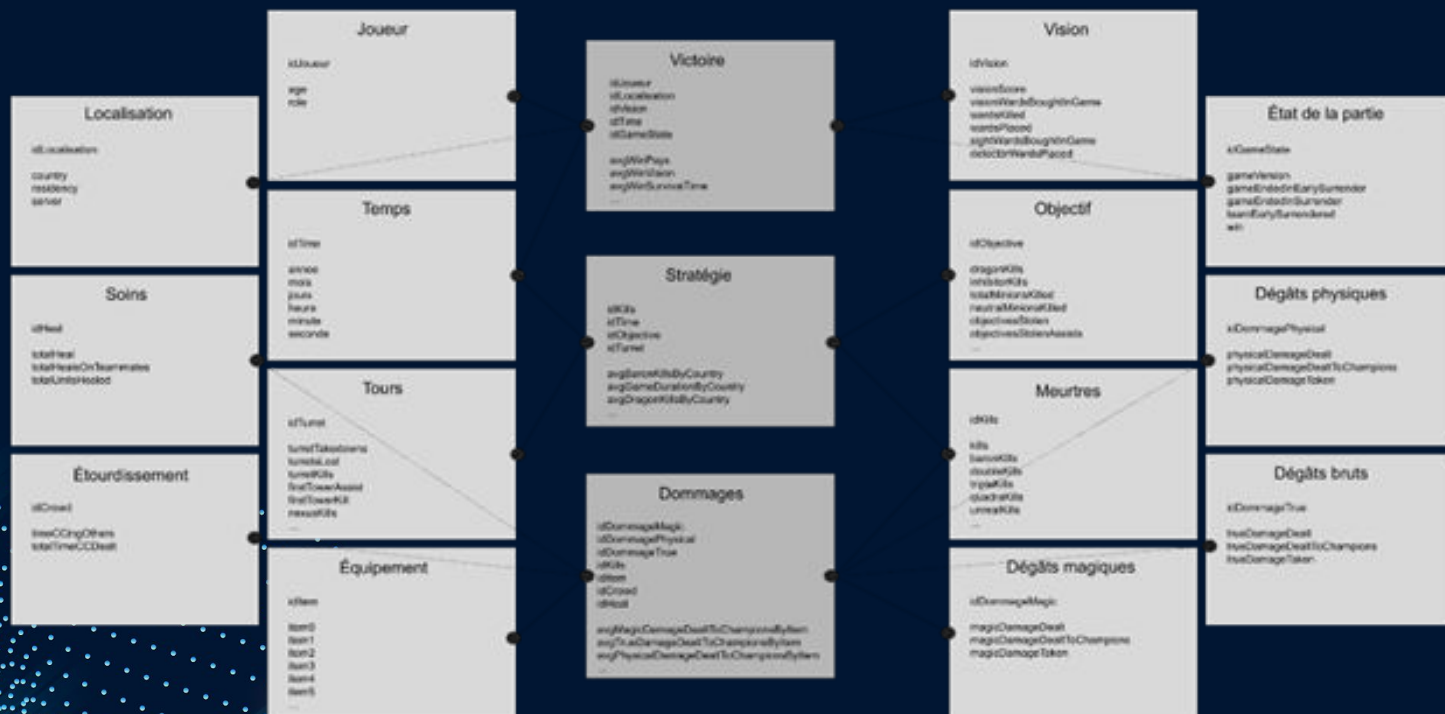
Echantillon des données obtenues

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Schéma



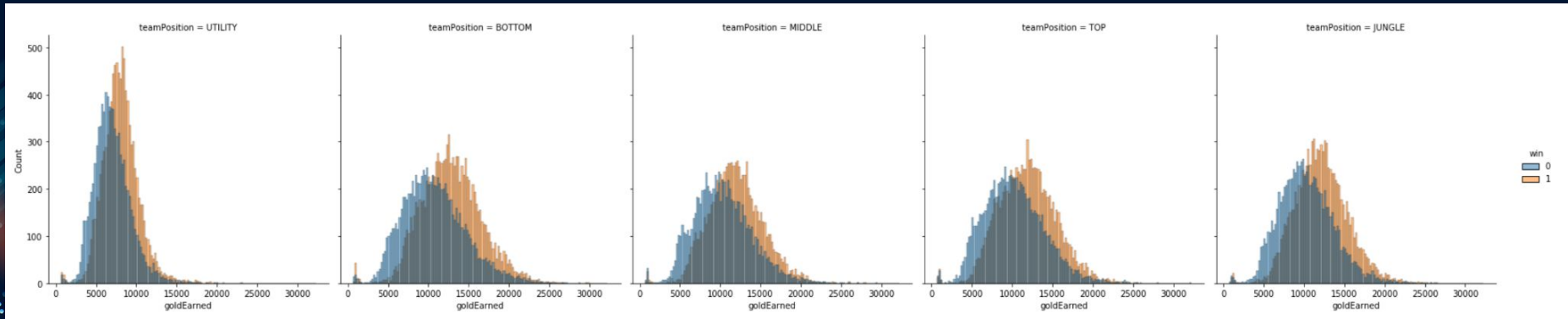
Explication

- Le fait Victoire nous permet de consulter les statistiques nationales et continentales sur le comportement au niveau de la vision en jeu, du temps de jeu, et l'âge des joueurs.
- Le fait Stratégie nous permet d'accéder aux informations concernant le comportement tactique des joueurs durant les parties par pays et par continent.
- Le fait Dommages nous propose de consulter l'impact des objets et des dégâts infligés ou reçus en jeu et leur impact sur la victoire, très utile pour observer les objets tendances ou au contraire délaissés.

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Exploration de données



Correlation : target

turretsLost	-0.753058
nexusLost	-0.694351
inhibitorsLost	-0.604275
deaths	-0.442798
totalTimeSpentDead	-0.345486
...	
bountyLevel	0.453563
inhibitorTakedowns	0.494001
nexusTakedowns	0.512171
turretTakedowns	0.571375

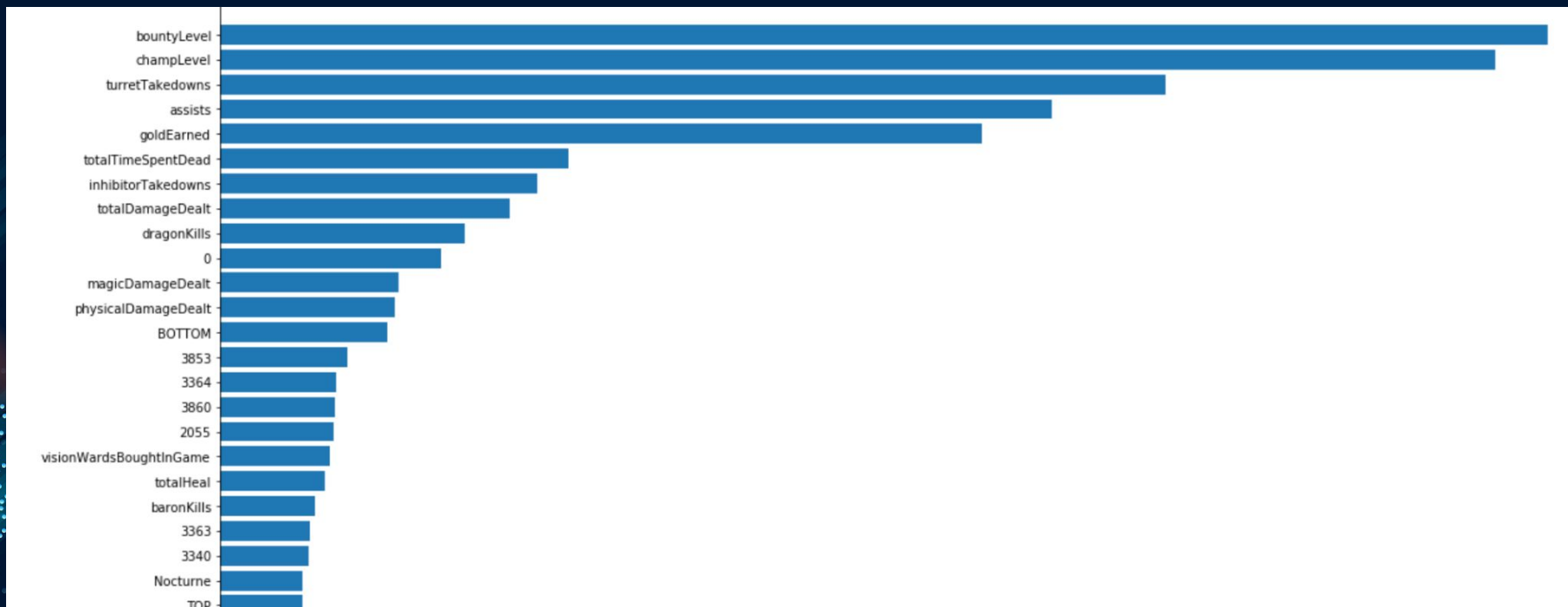
Meilleur modèle

```
--- Loading Linear SVM ---
```

```
--- Training : done ---
```

	precision	recall	f1-score	support
0	0.97	0.96	0.96	13353
1	0.96	0.97	0.97	14577
accuracy			0.97	27930
macro avg	0.97	0.97	0.97	27930
weighted avg	0.97	0.97	0.97	27930

Contributing features



Negatively contributing features



Conclusion

- Certains objets ou personnages contribuent positivement négativement à la victoire
- Combiner la prise d'objectifs et l'élimination d'ennemis garanti la victoire
- Ouverture : utiliser la chronologie de la partie



Merci pour votre attention !
