

League of Legends Champion Recommendation

소프트웨어학과 유준성

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Target Application & Flow Chart

Target Application

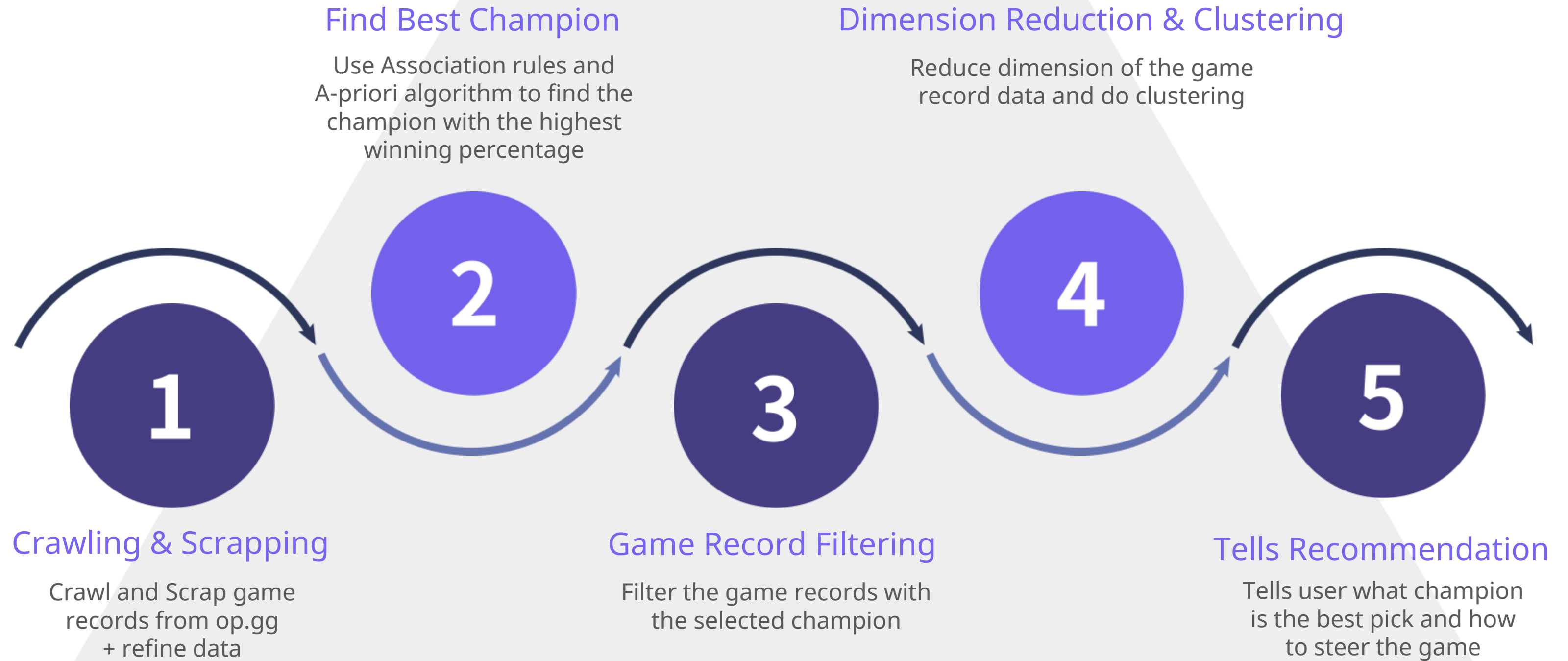
Which of the 161 champions would be the best to choose?



<Goal>

Advanced champion recommendation application by analyzing game records
Recommend how to manage a game based on statistics

Flow Chart



Methods

Data Preparation – Crawling & Refining
















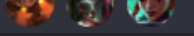

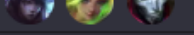

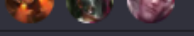

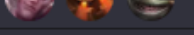

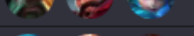

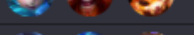

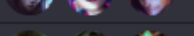



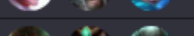

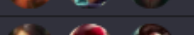

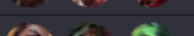


Tool for crawling : Selenium



Crawling site : OP.GG

The OP.GG logo features the text 'OP.GG' in a large, bold, blue, sans-serif font.

Data Preparation – Crawling & Refining

1	 05jug	Challenger	1,539 LP		46	<div><div>135W</div><div>55L</div><div>71%</div></div>
2	 Jett0	Challenger	1,531 LP		676	<div><div>612W</div><div>522L</div><div>54%</div></div>
3	 담원기아 루시드	Challenger	1,524 LP		59	<div><div>146W</div><div>79L</div><div>65%</div></div>
4	 농심라면다내꺼야	Challenger	1,485 LP		311	<div><div>716W</div><div>619L</div><div>54%</div></div>
5	 디알엑스 태운	Challenger	1,483 LP		293	<div><div>517W</div><div>427L</div><div>55%</div></div>
6	 G1DEON	Challenger	1,431 LP		99	<div><div>368W</div><div>299L</div><div>55%</div></div>
7	 peyzz	Challenger	1,426 LP		502	<div><div>756W</div><div>660L</div><div>53%</div></div>
8	 psavncav	Challenger	1,425 LP		623	<div><div>654W</div><div>579L</div><div>53%</div></div>
9	 난화내	Challenger	1,405 LP		564	<div><div>1074W</div><div>984L</div><div>52%</div></div>
10	 KT Way	Challenger	1,400 LP		496	<div><div>362W</div><div>278L</div><div>57%</div></div>
11	 BRO Delight	Challenger	1,399 LP		721	<div><div>607W</div><div>516L</div><div>54%</div></div>
12	 Rich3	Challenger	1,383 LP		531	<div><div>666W</div><div>590L</div><div>53%</div></div>
13	 ArkRuHa	Challenger	1,371 LP		101	<div><div>467W</div><div>396L</div><div>54%</div></div>
14	 BRO Hena	Challenger	1,368 LP		921	<div><div>1167W</div><div>1076L</div><div>52%</div></div>
15	 Shadow Patch	Challenger	1,351 LP		243	<div><div>438W</div><div>355L</div><div>55%</div></div>
16	 kiin	Challenger	1,343 LP		306	<div><div>252W</div><div>175L</div><div>59%</div></div>
17	 DRX Piero	Challenger	1,338 LP		374	<div><div>768W</div><div>684L</div><div>53%</div></div>
18	 DRX Sponge	Challenger	1,305 LP		262	<div><div>712W</div><div>639L</div><div>53%</div></div>
19	 잔손빌로다가 어	Challenger	1,297 LP		149	<div><div>313W</div><div>222L</div><div>59%</div></div>

SoleRank top 1000 users

['chancedong', 'contactus', '징징문', '다없수질', '시간의숲', 'shadow1234', '내가대격변이다', 'suyiming', '신을저주해', 'blackbaby', '망나니박진수', 'nssylvie', 'lumingze', 'ktway', 'luckgame1', '이월아칼리', 'brohena', '재혼이의모함', 'quad', '아아스크림', '추탈이fan', 'supreme01', 'qingqingqing', 'freditbrion', '어디간거니', '냥똥벌레', 'lajifuzhu', '독소쌍인다', 'dksharvel', '칼과창방패', '권지인', 'needher', 'dklucid', '농심라면다내꺼야', 'hlesamd0', '하건돌리', 'radiohead', '바람부는언덕위에', '디알엑스태운', '연애꽃1', 'arkruha', 'fa피치', 'honpi', 'shadownia', 'xbm', '존종겸손아닥집중', 'brodelight', '해가지면달이핀다', 'drxsponge', 'brobro', 'ktamid', 'rascal', 'psavncav', 'shadow1111', '범고래사자고양이', 'ningyao', '이차가식기전에', 'twichtvmigung', 'ilim6e8a', '또한방울', '청포도육포', '은가뉴', 'tpzhao727472857', 'drxpiero', '어리고싶다', 'beichuan', 'qfddxs', '해야하는것들', '코태', 'kiin', 'rich3', '변정현굉장하다', '어디가다들', 'g1deon', '착하게채팅쳐요', '난화내', '호잇이', 'pengyouwanan', '어쩌라고맞짱을까', '일산전영찬', '담원패밀리', '언니우기', '4ywi01zi6kb0', 'shadowpatch', 'p9q9p9q', 'rewkfopdsfk', 'ktcastle', 'tismashi', '변변정정현현', '221124', 'ktvicla', 'wiatnsupup', '화내기도지쳤어', '06탑차이', '대머리', 'dkpullbae', 'lcklpl', '잔손빌로다가어', '아이러니', 'pangsu', 'hhhhbbbb', '그랜저좋있다', '해피람', 'dongnarachi', 'igyng', '워드', 'ucal', '핏빛계약', '맛있어져라', 'dk세인트', '캐인', '도구는툴툴', '기묘기묘', '개게알리지', '마틴마틴마틴마틴', 'permaban12061827', 'xing', '해피용', 'slowshiba64', '문과', '이해가아리마셈', 'revebonheurtoi', '소년가장원딜', '유상증자', '눈을사용하세요', '캐리나할까', 't1photon2', 'azhy', 'tigumayusi', 'kqher', '6461', 'talon817', 'qweqweqerrr', '먹무렁', '아창란식물', 'dkbible', '케리움', 'smallchampool', '방송인손주낙', '렐서풋', '런두', 'onelastklss', '신상공원', '저맹굽니다', 'facallme', 'gengakia', 'midking', '누원팍', 'fgdkxcnkz', 'academyt1', 'bromorgan', '관모', '매일불면증', '원나물', 'neko1', 'c0ldworld', '게으름피우기', '에너지유링크', 'inng7', '박구원', '이니쉬', 'zenbukorusu', 'pzzzang', '우연이영원히', '썰di', 'casting', '테디park', '아좁맛없네', '김춘식', '초보강아지', '피그차이나', 'maybealittle', 'icnoasndql', 't1trigger', 'erilia', 'zikal', '매디도구큰다', '살수없이', 't1포레스트', '수희0', '내목숨은아이여메', '코로나시러', 'letmesup', 'baut2', 'new삼민', 'hxqeyff', '한화생명기동조', 'rumbon', 'sangchu', '준배', 'shennigaoshou', 'ddoiv', '버기해적단버기', 'onezang', '울부짖는마오카이', '초바모자', '팀개못하면누누함', '강하다별', 't1gangplankzz', 'yoyodear', '첸지아키아', '청포도는외계인', '이기고싶다야', '경자고김우민', '빙산의일각', '손주낙', 'romeosavene', 'jkjkjkjkk', '비급음식서바이벌', 'luckgame3', '술인데요', '핑핑핑핑핑핑', 'mudai', '존송이', 'zhouyudagougou', '아이야아이야이야', '정글도치', '정혼이의모함', 'wehui', 'midqya', 'fortunateman', '전민혁', '프로연락친추주셈', 'rebysr', '타코먹으러떠남', 'kp스타수해자', '드래곤볼몬라인', 'xwopxl', 'esenswtfru', '매니속메쁨미친년', '나는냉정하다', '아라카키유이', '조고마한달기', '하하하하하새끼', 'twitch다훈갓', '노력35', 'fatty', '쏘쏘꼬미', 'noir5', 'uneasy123', '초음파발아랏oooo', '가오뎅뎅', '백크님화이팅', 'new윤희환', 'yibeiliangbei', '아이러니2', 'lngzhaorenxxxxx', '변갯볼의섬광', '저쌍인데터졌어영', '곽수종', '아연문', '신격', '불이과', 'dayeking', '맹청한남자', '강직한루비임프', '슈퍼짱세이', '이겨보자야', '98kcn', 'permaban12061826', 'seven', '공주현s2', 'llllllll123', 'hleonfleek', 'qa23c44333', 'dkshowmaker', '열심히가안돼요', '말리마스', 'tsmftxmi a', 'kimsanghoon', 'destiny', '한달안에헬까지', '행복한태윤이', 'avrillavigne', 'gengcasting', 'vancouver0', '전설의롤1234', '블미', 'jul7', 'asdfghjhhg', '킬러툼', 'wittmid', 'nulinuliba', '광연44', 'ouyangnanathebe', '강주연', 'dankeshoon', '거북이삼형제', 'zxcawaqwe', 'ddayman', 'orcachu', '겨울레몬', 'rdyrdy', 'imanostrich', '이야공', 'lsbenvy', '꿀잼사과잼', 'saebyuck', 'neth3rworld', 'lieona', 'fragiie', 'topking', '이쁜채팅', 'zzz163', 'kukukukuku', '악마툼', 'gengseeder', '진영진영', '줄린시간의숲', 'haoeeee', 'pizano', 'afgfg', '트위치다훈갓', 'danxiaogu', 'epilogueforyou', 'ohlovely', '토어문호두', 'knightbaby', 'twosupcantwin', 'dwgkia', 'shadowcad', 'gengruler', '고등학생', 'beibeibabe', 'bvoy3', '찬중', 'doo2o', 'zichuanxiu', 'everysec0nd', 'permaban12064821', 't1van', 'xxiaohao', '북한가자', 'hlewille r', 'mm8n', 'mllinjinbingwan', '저높은곳으로', 'blacksmithking', 'ignar', '못생김채영', '2o22winter', 'aileri', 'shangxinni', 'canbeyour', '하늘에노래하며', 'doltv5327129', 'vmuy', 'lifel', 'rebysr', 'wannaberookie', 'wampuyam', 'mrotsder', 'haohanguo', '준걸준재주재', 'qwasdasd', 'ktrjgl', '내반려견봄이', 'jaeyounge2', '전프로코치구직', 'sharvelfan1', '남장구', '아너큐틀러', 'bababaabam', '교육잘받은도구', '허빙', 'cr0wn', 'qusibadaye', 'dk바이بل', 'maozhuren1', 'gaohanjjoygod', 'smmz', 'nshh', 'asdoihaqhdoqwd', 'thanatos', 'swalla', 'sangonomiya', 'bl09', '강하다별', '쌍우양1', 'zi존고수짱짱맨', 'tnsl', 'lv1갑각류', '수당김', 'iejqifpq', '핑절대안찍음', '내지난날들은', 'privatemail', '조관우급늬설치', '솔랭전문서풋', '얼린레몬차', 'qweasdzxz', '별수호자김인겸', 'wocjf', '부리부리대마왕', 'broenosh', '칼과배음료', '별꿀이시우', 'spongebob', '겨릴레오겨릴레이', 'z2ry', '저돌적인포지션', 'gble212', 'apology', '살권레', 'dangyadangyadang', 'jug2005', '불멸의무빙', 'qwer112233', '하프물범아웅아웅', 'smbheixiaohu', 'hlesamd3', '건돌지마십기', 'explosivecask', 't1dal', '아내를사랑하다', 'whysj', 'gengzest', 'hlelulalux', 'drxtaeyoonn', 'keeiyes', '정6천', 'haohao', 'pungyeon', '태리곰곰', 'imtrash', '죽기장인', '단구동베어그릴스', 'toiland', 'vsta0', '박홍호', 'jaqbh4n', 'imaginelegends', '규보리', '짜꿍이', '꾸우꾸우음툼', '몽키d짱구', 'daor', '7t', 't1photon1', '디케이탑', 'cikcik', '트위치오또마', 'opensup', '서당개쳐를살기', '현기증나는사람', 'jsjstar', 'beauvoyage', 'fiddlestick',

List of top 1000 users

Data Preparation – Crawling & Refining

승리 (레드팀)		OP Score	KDA	피해량		와드	CS	아이템	
15	  decky1 Grandmaster	6.6 4th	7/5/14 (47%) 4.20:1	22,602	31,268	4 6 / 3	177 분당 6.1		
16	  05jug Challenger	7 2nd	8/6/19 (60%) 4.50:1	21,126	35,185	10 6 / 2	161 분당 5.5		
15	  qewdacz Grandmaster	6.5 5th	7/4/11 (40%) 4.50:1	17,197	22,329	7 14 / 6	156 분당 5.3		
16	  핑 절대 안찌금 Grandmaster	7.9 MVP	19/7/12 (69%) 4.43:1	33,810	25,034	5 17 / 6	221 분당 7.6		
12	  말벌성호 Grandmaster	6.8 3rd	4/9/20 (53%) 2.67:1	8,154	21,998	18 67 / 6	29 분당 1		
 1  2  8		45	Total Kill		31		 0  0  3		
		65,384	Total Gold		58,188				
패배 (블루팀)		OP Score	KDA	피해량		와드	CS	아이템	
15	  바람부는언덕 Challenger	5.7 9th	4/8/8 (39%) 1.50:1	21,909	22,327	4 8 / 9	188 분당 6.4		
13	  조광희 Grandmaster	5.8 7th	3/6/20 (74%) 3.83:1	14,109	18,457	6 7 / 13	126 분당 4.3		
14	  Blackbaby Challenger	6.1 ACE	13/8/9 (71%) 2.75:1	32,933	22,034	3 3 / 6	169 분당 5.8		
13	  xixi goodnight Grandmaster	5.3 10th	11/11/4 (48%) 1.36:1	32,329	24,089	1 7 / 5	206 분당 7.1		
12	  Pinkocean1 Grandmaster	5.7 8th	0/12/17 (55%) 1.42:1	10,073	26,221	13 38 / 6	29 분당 1		

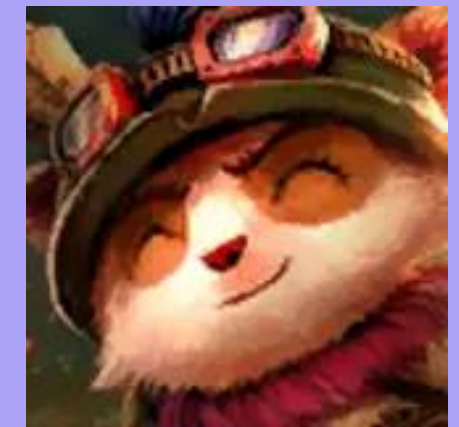
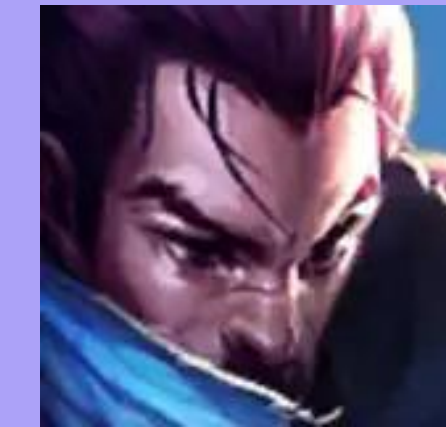
100 games for each users

```
{
  "gameType": "솔랭",
  "win player1": {
    "champion": "fiora",
    "spell1": "점멸",
    "spell2": "순간이동",
    "rune1": "착취의 손아귀",
    "rune2": "마법",
    "user name": "1AP 하고싶다",
    "kill": "7",
    "death": "6",
    "assist": "5",
    "kill participation": "40%",
    "kda": 2.0,
    "damage dealt": "21,678",
    "damage taken": "42,893",
    "control ward": "2",
    "warding": "9",
    "ward removed": "4",
    "total cs": "206",
    "cs per minute": "6.9",
    "item1": "굶주린 히드라",
    "item2": "루비 수정",
    "item3": "판금 장화",
    "item4": "신성한 파괴자",
    "item5": "처형인의 대검",
    "item6": "콜필드의 전투 망치",
    "item7": "예언자의 렌즈"
  },
  "win player2": {
    "champion": "graves",
    "spell1": "강타",
    "spell2": "점멸",
    "rune1": "감전",
    "rune2": "마법",
    "user name": "1AP 하고싶다",
    "kill": "4",
    "death": "6",
    "assist": "11",
    "kill participation": "50%",
    "kda": 2.5,
    "damage dealt": "18,706",
    "damage taken": "27,915",
    "control ward": "2",
    "warding": "4",
    "ward removed": "4",
    "total cs": "252",
    "cs per minute": "8.4",
    "item1": "월식",
    "item2": "요무무의 유령검",
    "item3": "최후의 속삭임",
    "item4": "광전사의 군화",
    "item5": "칠흑의 양날 도끼",
    "item6": "예언자의 렌즈"
  },
  "win player3": {
    "champion": "rumble",
    "spell1": "점화",
    "spell2": "점멸",
    "rune1": "신비로운 유성",
    "rune2": "결의",
    "user name": "턱 발로 걸어차기",
    "kill": "5",
    "death": "5",
    "assist": "15",
    "kill participation": "67%",
    "kda": 4.0,
    "damage dealt": "23,363",
    "damage taken": "21,348",
    "control ward": "1",
    "warding": "11",
    "ward removed": "3",
    "total cs": "212",
    "cs per minute": "7.1",
    "item1": "존야의 모래시계",
    "item2": "신속의 장화",
    "item3": "밤의 수확자",
    "item4": "메자이의 영혼악탈자",
    "item5": "망각의 구",
    "item6": "방출의 마법봉",
    "item7": "투명 와드"
  }
},
```

save as json

Association Rules & A-priori Algorithm

frequent & high winning rate
→ recommended



frequent & low winning rate
→ not recommended



Association Rules & A-priori Algorithm

1st support threshold: $1/161 = 0.0062$

2nd support threshold: 0.0048

3rd support threshold: 0.0016



Demension Reduction & K-means Clustering

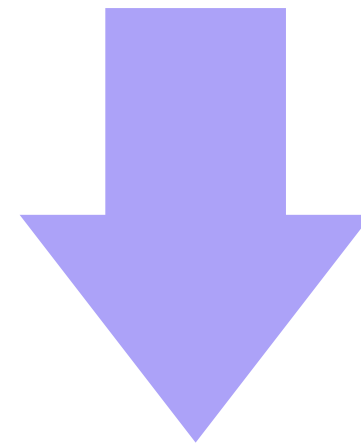
250+ features

player 1 : kill, death, assist, kda, kill_participation, rune, spell....

player 2 : kill, death, assist, kda, kill_participation, rune, spell....

player 3 :

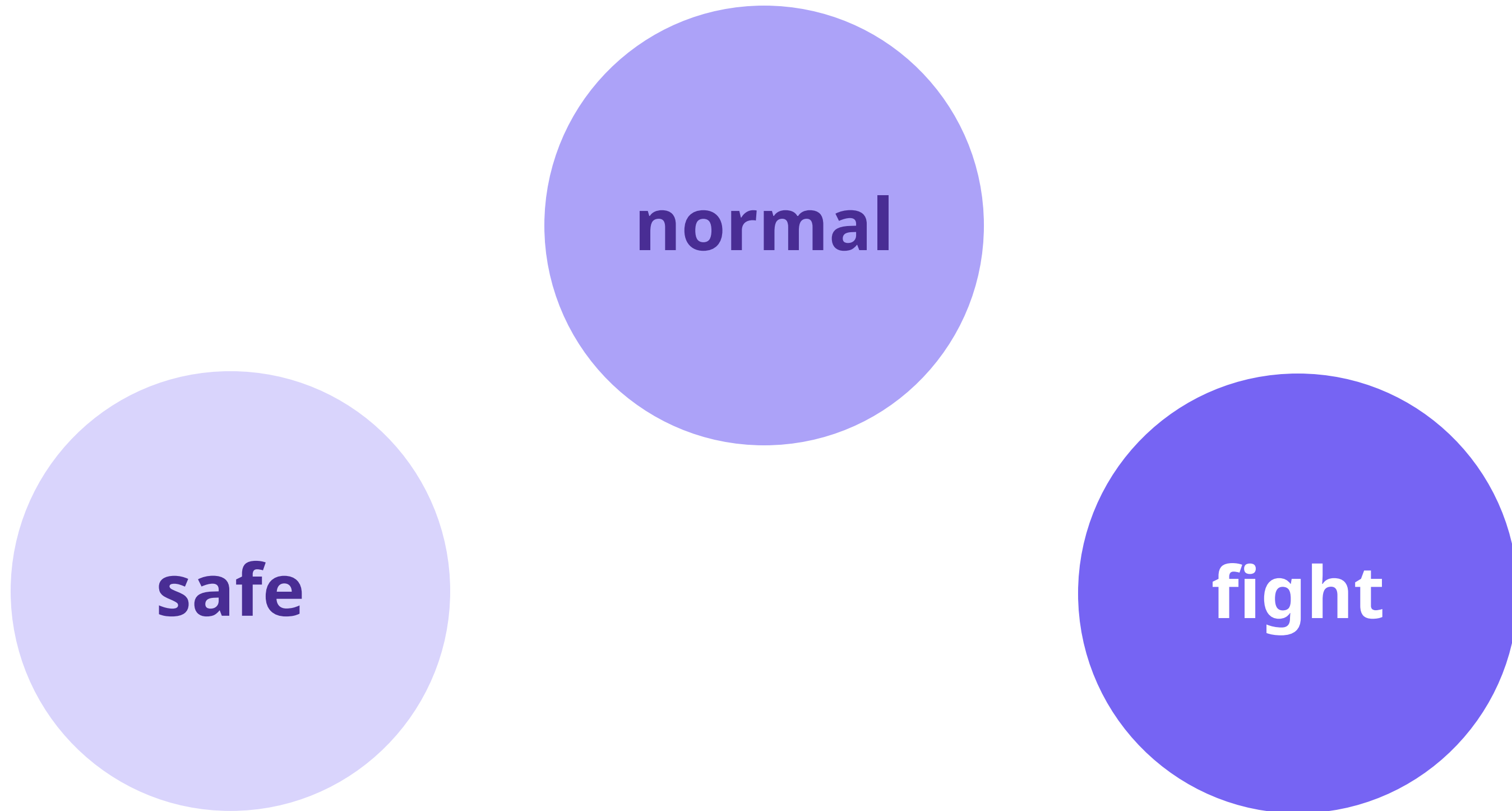
....



Numeric Data
Standard Scaler
PCA

20 features & 90% information

Demension Reduction & K-means Clustering



Results

Web Application

첫 번째 챔피언

submit

추천 챔피언 순위

비추천 챔피언 순위

rell	49.61	55.48	5.87	fight:50.92% -> safe:49.78% -> normal:49.29%
renata	49.61	52.33	2.72	normal:50.56% -> safe:50.47% -> fight:49.69%
sylas	49.61	51.83	2.22	safe:50.17% -> fight:50.03% -> normal:49.76%
varus	49.61	51.82	2.21	normal:49.67% -> safe:49.37% -> fight:49.07%
caitlyn	49.61	51.48	1.87	normal:50.62% -> safe:50.22% -> fight:50.09%
kaisa	49.61	50.99	1.38	normal:50.31% -> safe:50.26% -> fight:49.66%
karma	49.61	50.42	0.81	normal:50.19% -> fight:49.96% -> safe:49.54%
maokai	49.61	50.3	0.69	normal:50.45% -> fight:50.2% -> safe:50.16%
taliyah	49.61	50.17	0.56	fight:50.24% -> safe:50.04% -> normal:49.11%
thresh	49.61	50.0	0.39	fight:51.7% -> safe:49.89% -> normal:49.67%
hecarim	49.61	49.9	0.29	safe:50.36% -> fight:49.87% -> normal:49.54%
blitzcrank	49.61	49.86	0.25	normal:50.51% -> safe:49.46% -> fight:49.45%
kindred	49.61	46.53	-3.08	safe:50.9% -> normal:49.52% -> fight:49.1%
viktor	49.61	46.58	-3.03	safe:49.87% -> fight:49.58% -> normal:49.24%
azir	49.61	46.69	-2.92	fight:51.02% -> normal:49.76% -> safe:48.74%
yuumi	49.61	47.34	-2.27	fight:49.14% -> normal:48.27% -> safe:48.18%
syndra	49.61	47.37	-2.24	safe:50.58% -> fight:50.0% -> normal:49.89%
amumu	49.61	47.77	-1.84	safe:50.25% -> fight:50.24% -> normal:49.73%
alistar	49.61	47.91	-1.7	normal:50.94% -> fight:49.4% -> safe:48.18%
viego	49.61	48.06	-1.55	normal:50.02% -> safe:49.79% -> fight:49.42%
pyke	49.61	48.09	-1.52	normal:50.23% -> safe:48.2% -> fight:47.94%
kalista	49.61	48.2	-1.41	fight:50.86% -> normal:50.29% -> safe:49.74%
akali	49.61	48.25	-1.36	normal:50.92% -> safe:49.4% -> fight:49.23%
leesin	49.61	48.25	-1.36	normal:49.18% -> safe:49.15% -> fight:48.72%

두 번째 챔피언

submit

추천 챔피언 순위

비추천 챔피언 순위

nidalee	48.57	55.04	6.47	fight:50.85% -> normal:50.29% -> safe:49.67%
sylas	48.57	51.75	3.18	safe:50.17% -> fight:50.05% -> normal:49.76%
kaisa	48.57	48.63	0.06	normal:50.31% -> safe:50.26% -> fight:49.66%
graves	48.57	43.36	-5.21	fight:50.21% -> safe:50.19% -> normal:49.81%
samira	48.57	47.79	-0.78	normal:49.6% -> fight:49.58% -> safe:49.13%

Evaluation

Evaluation

첫 번째 챔피언

submit

추천 챔피언 순위

비추천 챔피언 순위

alistar	48.91	51.03	2.12	normal:50.88% -> fight:49.45% -> safe:48.23%	nidalee	48.91	46.3	-2.61	normal:50.8% -> fight:50.32% -> safe:49.66%
gragas	48.91	49.66	0.75	normal:50.89% -> fight:50.0% -> safe:49.92%	sejuani	48.91	46.56	-2.35	normal:49.79% -> safe:49.78% -> fight:49.33%
rakan	48.91	49.31	0.4	fight:52.1% -> normal:50.35% -> safe:49.76%	yone	48.91	46.59	-2.32	fight:50.68% -> normal:50.18% -> safe:48.6%
					taliyah	48.91	46.91	-2.0	fight:50.29% -> safe:50.06% -> normal:49.07%
					kaisa	48.91	48.12	-0.79	normal:50.33% -> safe:50.25% -> fight:49.67%
					sylas	48.91	48.4	-0.51	safe:50.18% -> normal:50.02% -> fight:49.77%
					pyke	48.91	48.68	-0.23	normal:50.23% -> safe:48.2% -> fight:47.95%
					nautilus	48.91	48.8	-0.11	fight:50.9% -> normal:50.48% -> safe:49.63%
					aatrox	48.91	48.89	-0.02	safe:50.22% -> fight:49.81% -> normal:49.34%

첫 번째 챔피언

submit

추천 챔피언 순위

비추천 챔피언 순위

belveth	50.35	54.14	3.79	fight:53.07% -> normal:52.62% -> safe:50.54%	lulu	50.35	46.77	-3.58	normal:50.56% -> fight:49.76% -> safe:48.73%
gangplank	50.35	52.35	2.0	normal:53.02% -> safe:52.34% -> fight:51.68%	sett	50.35	48.03	-2.32	fight:50.23% -> safe:50.03% -> normal:48.66%
hecarim	50.35	52.29	1.94	safe:50.32% -> fight:49.8% -> normal:49.71%	kindred	50.35	48.21	-2.14	safe:51.0% -> normal:49.51% -> fight:49.09%
thresh	50.35	51.98	1.63	safe:51.64% -> normal:49.91% -> fight:49.67%	nautilus	50.35	48.25	-2.1	fight:50.93% -> normal:50.45% -> safe:49.62%
karma	50.35	51.74	1.39	normal:50.19% -> fight:49.93% -> safe:49.55%	vex	50.35	48.6	-1.75	normal:50.55% -> fight:50.48% -> safe:49.97%
aatrox	50.35	51.66	1.31	normal:50.18% -> fight:49.88% -> safe:49.34%	zoe	50.35	49.12	-1.23	normal:50.66% -> safe:50.25% -> fight:48.29%
sejuani	50.35	51.65	1.3	safe:49.78% -> normal:49.75% -> fight:49.4%	leesin	50.35	49.28	-1.07	normal:49.22% -> safe:49.13% -> fight:48.68%
fiora	50.35	51.48	1.13	normal:51.2% -> fight:49.77% -> safe:48.73%	ornn	50.35	49.33	-1.02	safe:51.08% -> fight:50.17% -> normal:49.74%
akali	50.35	51.21	0.86	normal:50.89% -> safe:49.4% -> fight:49.24%	galio	50.35	49.68	-0.67	normal:50.29% -> fight:49.13% -> safe:48.84%
nidalee	50.35	51.21	0.86	fight:50.85% -> normal:50.3% -> safe:49.66%	ashe	50.35	49.69	-0.66	normal:51.85% -> safe:50.24% -> fight:49.35%
gragas	50.35	51.17	0.82	normal:50.89% -> fight:50.0% -> safe:49.92%	azir	50.35	50.0	-0.35	normal:51.02% -> fight:49.76% -> safe:48.74%
irelia	50.35	51.02	0.67	fight:51.96% -> safe:49.67% -> normal:49.61%	camille	50.35	50.0	-0.35	fight:51.39% -> safe:49.92% -> normal:49.6%
syndra	50.35	50.96	0.61	safe:50.58% -> normal:50.09% -> fight:49.84%	sylas	50.35	50.05	-0.3	safe:50.19% -> fight:50.05% -> normal:49.74%
taliyah	50.35	50.91	0.56	normal:50.28% -> safe:50.06% -> fight:49.06%	maokai	50.35	50.1	-0.25	fight:50.48% -> safe:50.16% -> normal:50.15%

Thank You