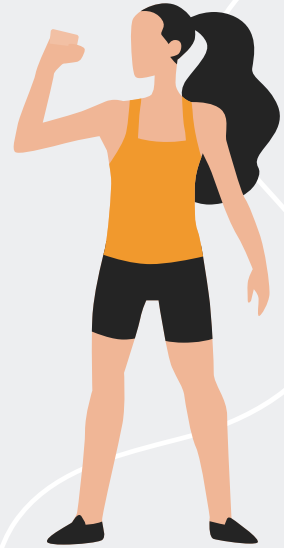


GymMatch

**Choose your gymnastic
teammate and alternative**



Every gymnast has strong and weak events



Vault



Balance
Beam



Uneven
Bars



Floor
Exercise

WHOA



Illustration of Data Management

An User Input

Get the cluster number from Clustering Model

Find gymnasts in the same and other clusters from

```
mysql> SELECT * FROM results_labels;
```

id	rank	gymnast	vault	uneven_bars	balance_beam	floor_exercise	total	label
1	1	Sunisa Lee	14.6	15.3	13.833	13.7	57.433	0
2	2	Rebeca Andrade	15.3	14.666	13.666	13.666	57.298	1
3	3	Angelina Melnikova	14.633	14.9	13.7	13.966	57.199	0
4	4	Vladislava Urazova	14.5	14.866	14.2	13.4	56.966	0
5	5	Mai Murakami	14.533	13.733	13.766	14	56.032	3
6	6	Nina Derwael	13.9	15.266	13.366	13.433	55.965	0

Generate one from the same cluster and one from others and inject to

```
mysql> SELECT * FROM user_input_matching;
```

id	gymnast	vault	uneven_bars	balance_beam	floor_exercise	label	similar	different
1	test by lkane	14.3	12.8	14.1	14.5	3	Mai Murakami	Nina Derwael
2	another test by lkane	12.6	13	15	15	3	Mai Murakami	Zsöfia Kovács
3	first test from ECS	15	13	15	12	0	Lee Yun-seo	Martina Maggio

Model Development

K-means clustering model

Standardized and mean-centered data

Success metrics

Pseudo F & Pseudo R square

Number of clusters	Pseudo F	Pseudo R square
2	15.44	0.59
3	13.73	0.43
4	12.18	0.35



Insights

Most gymnasts (46%) that reach the all-around final are strong in uneven bars and balance beam.

Gymnasts with strength in vault are the second frequent in this list.

Thank you

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