

iPWSCup2023

Competition Summary

iPWS Cup 2023 Committee

Makoto Iguchi

August 28, 2023

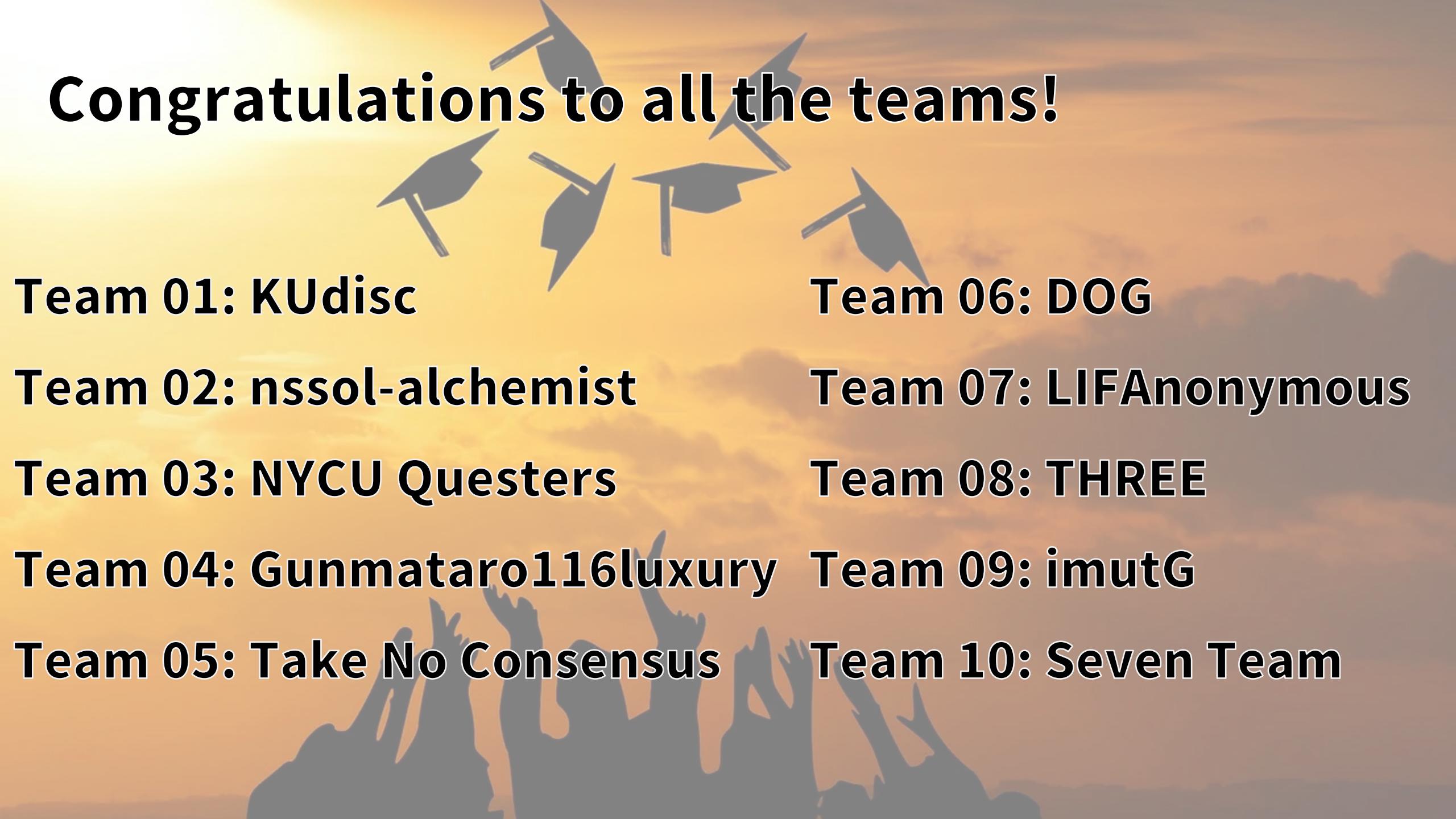
Agenda

1. Competition Final Result
2. Remarks from Organizer



Competition Final Result

Congratulations to all the teams!



Team 01: KUdisc

Team 02: nssol-alchemist

Team 03: NYCU Questers

Team 04: Gunmataro116luxury

Team 05: Take No Consensus

Team 06: DOG

Team 07: LIFAnonymous

Team 08: THREE

Team 09: imutG

Team 10: Seven Team

Final Round: Anonymization Phase Result

Team ID and name	Utility Score	Privacy Score	Overall Score	Attack Score
01: KUdisc	0.6484 (10)			
02: nssol-alchemist	0.8877 (2)			
03: NYCU Questers	0.7393 (8)			
04: Gunmataro116luxury	0.8307 (5)			
05: Take No Consensus	0.8144 (6)			
06: DOG	0.8754 (3)			
07: LIFAnonymous	0.6617 (9)			
08: THREE	0.8671 (4)			
09: imutG	0.7488 (7)			
10: Seven Team	0.9008 (1)			

Final Round: Attack Phase Result

	01	02	03	04	05	06	07	08	09	10	Attack Score
01: KUdisc	-	0.0467	0.52	0.9567	0.9567	0.9133	0.9333	0.95	0.4267	0.7567	0.2822
02: nssol-alchemist	0.9967	-	0.46	1	0.9733	0.9833	0.83	1	0.7067	0.81	0.1378
03: NYCU Questers	0.9867	0.04	-	0.9733	0.96	0.9067	0.86	0.94	0.4833	0.7933	0.2285
04: Gunmataro116luxury	0.98	0.0267	0.4667	-	0.9533	0.8433	0.8833	0.89	0.5533	0.7833	0.2911
05: Take No Consensus	0.9867	0.27	0.95	0.97	-	0.8967	0.9933	0.9333	0.97	0.8233	0.1341
06: DOG	0.9867	0.0167	0.46	0.9633	0.9533	-	0.8533	0.9467	0.57	0.81	0.2711
07: LIFAnonymous	0.9933	0.0433	0.5067	0.9933	0.9667	0.98	-	1	0.4567	0.81	0.2500
08: THREE	0.98	0	0.46	0.95	0.95	0.8667	0.8833	-	0.41	0.76	0.3044
09: imutG	0.9933	0.04	0.5	0.9567	0.9567	0.9267	0.9033	0.9433	-	0.77	0.2233
10: Seven Team	0.9867	0.0467	0.5533	0.99	0.9767	0.9367	0.9033	0.9533	0.47	-	0.2426
Privacy Score	0.98	0	0.46	0.95	0.95	0.8433	0.83	0.89	0.41	0.7567	

Final Round: Overall Result

Team ID and name	Utility Score	Privacy Score	Overall Score	Attack Score
01: KUdisc	0.6484 (10)	0.98 (1)		0.2822 (3)
02: nssol-alchemist	0.8877 (2)	0 (10)		0.1378 (9)
03: NYCU Questers	0.7393 (8)	0.46 (8)		0.2285 (8)
04: Gunmataro116luxury	0.8307 (5)	0.95 (2)		0.2911 (2)
05: Take No Consensus	0.8144 (6)	0.95 (2)		0.1341 (10)
06: DOG	0.8754 (3)	0.8433 (5)		0.2711 (4)
07: LIFAnonymous	0.6617 (9)	0.83 (6)		0.2500 (5)
08: THREE	0.8671 (4)	0.89 (4)		0.3044 (1)
09: imutG	0.7488 (7)	0.41 (9)		0.2233 (7)
10: Seven Team	0.9008 (1)	0.7567 (7)		0.2426 (6)



Harmonic mean

Final Round: Overall Result

Team ID and name	Utility Score	Privacy Score	Overall Score	Attack Score
01: KUdisc	0.6484 (10)	0.98 (1)	0.7804 (6)	0.2822 (3)
02: nssol-alchemist	0.8877 (2)	0 (10)	0 (10)	0.1378 (9)
03: NYCU Questers	0.7393 (8)	0.46 (8)	0.5671 (8)	0.2285 (8)
04: Gunmataro116luxury	0.8307 (5)	0.95 (2)	0.8864 (1)	0.2911 (2)
05: Take No Consensus	0.8144 (6)	0.95 (2)	0.8770 (3)	0.1341 (10)
06: DOG	0.8754 (3)	0.8433 (5)	0.8590 (4)	0.2711 (4)
07: LIFAnonymous	0.6617 (9)	0.83 (6)	0.7364 (7)	0.2500 (5)
08: THREE	0.8671 (4)	0.89 (4)	0.8784 (2)	0.3044 (1)
09: imutG	0.7488 (7)	0.41 (9)	0.5299 (9)	0.2233 (7)
10: Seven Team	0.9008 (1)	0.7567 (7)	0.8225 (5)	0.2426 (6)



Team 04: Gunmataro116luxury



Team 08: THREE



Team 05: Take No Consensus

Remarks

1. Original and anonymized health data analysis
2. Privacy-utility tradeoff

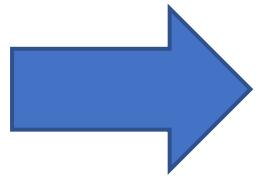
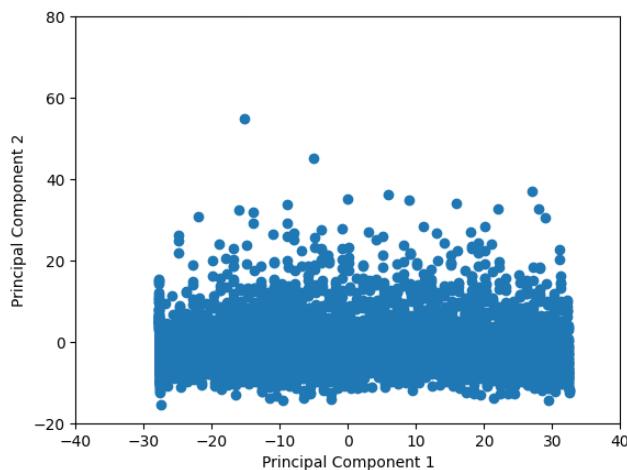
1. Original Health Data

■ Synthetic data

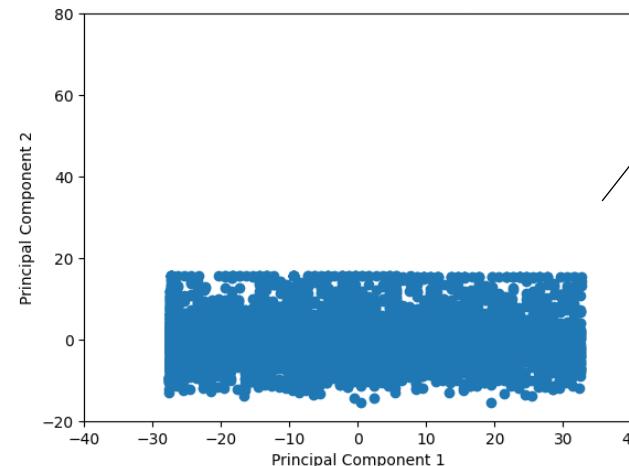
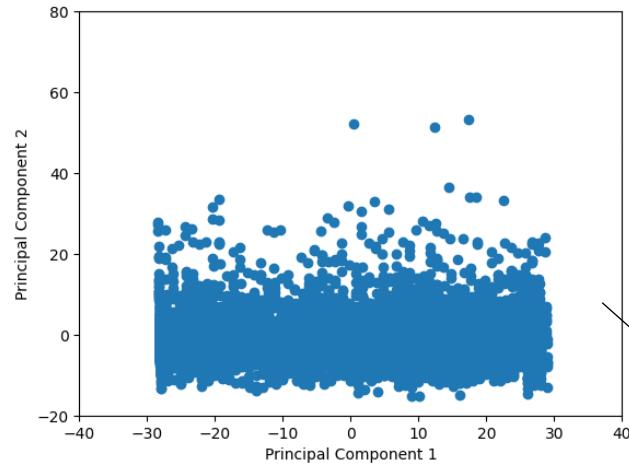
- Original data: [NHANES 2017-2018](#)
- Preserve basic statistics (e.g., mean and covariance) of the original data

Principal Component Analysis (PCA)

NHANES data

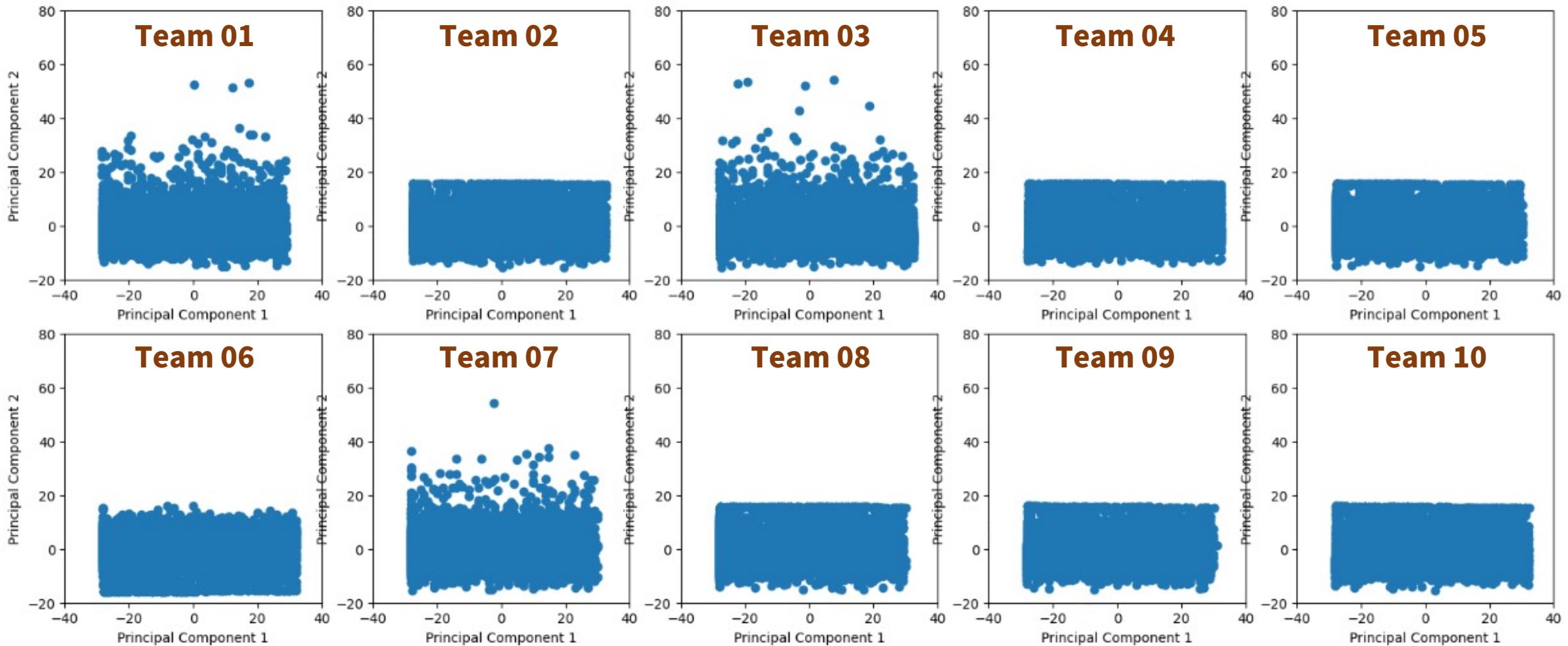


Synthesized data

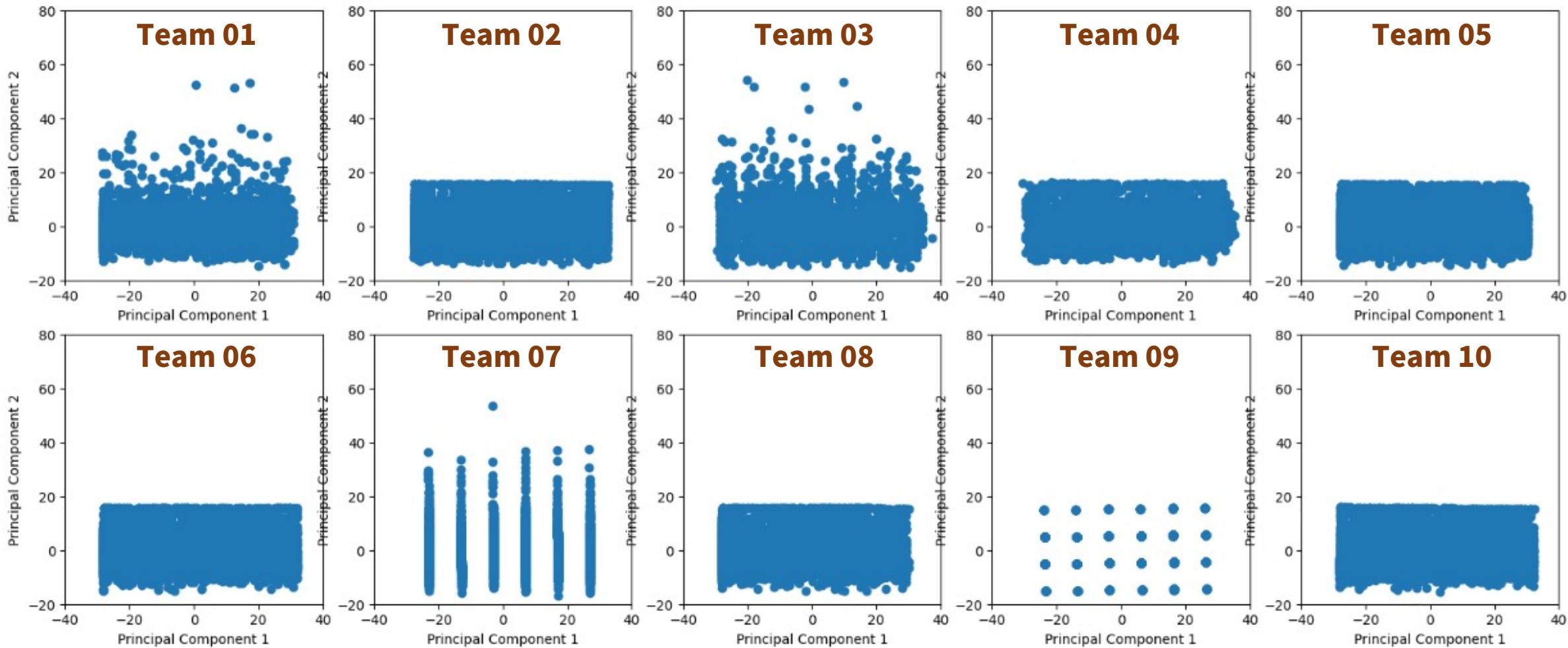


Two types of synthesized data are **unintentionally** mixed in the original health data

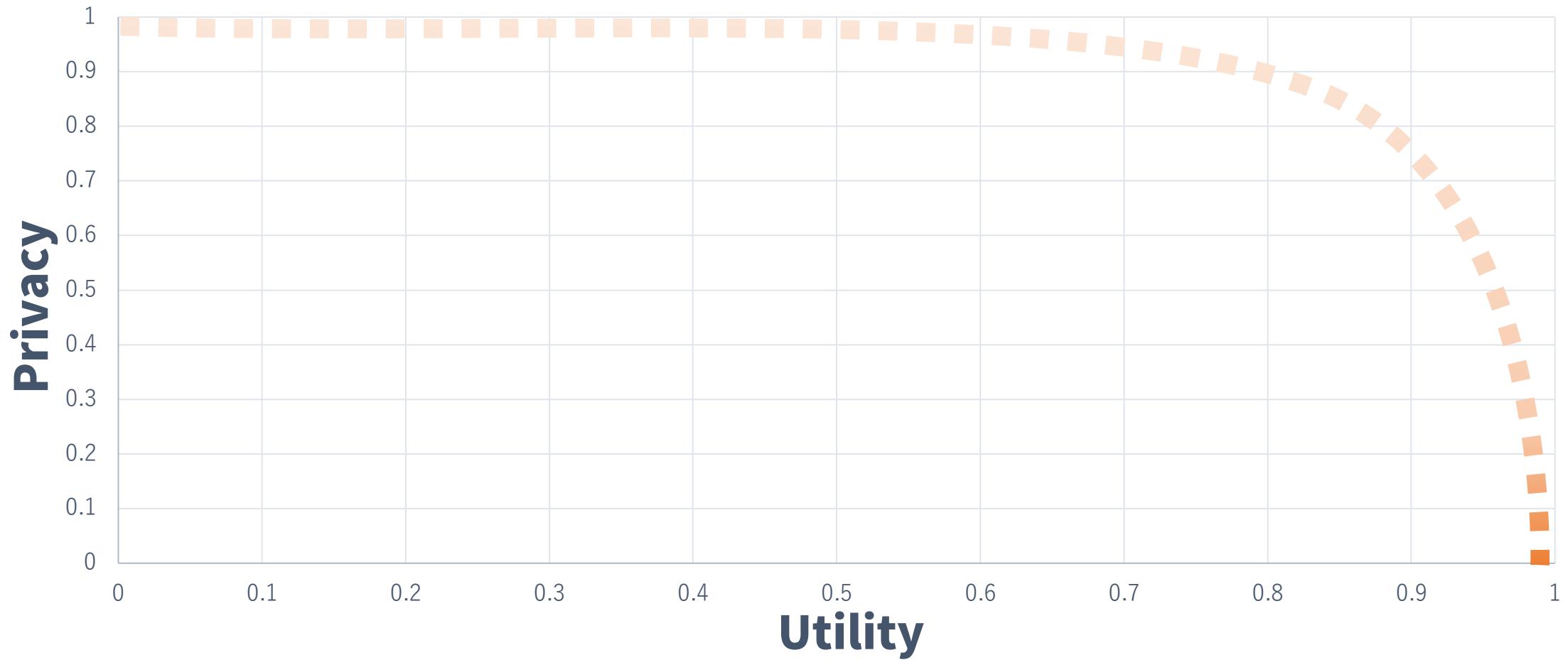
PCA of original data selected by each team



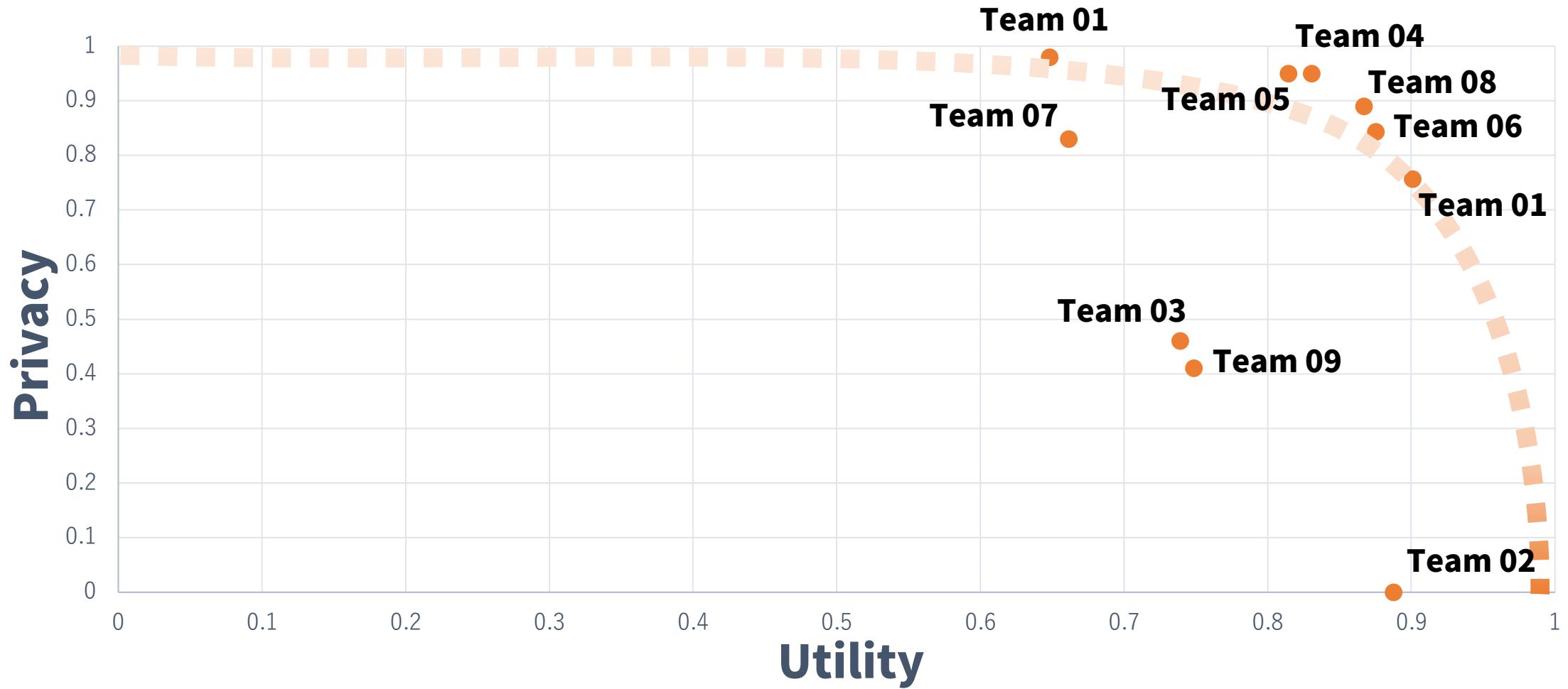
PCA of anonymized data submitted



2. “Privacy-Utility” Tradeoff?



Hmm... Maybe?



EXPLORE

CEPTION
Saturday | Dec. 14
6-9PM

PSST

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IT'S YOUR
TURN!



TODAY
CHOCOLATE

The order of presentation

1. Team 04: Gunmataro116Luxury (Koji Chida)
2. Team 08: THREE (Hikaru Horigome)
3. Team 05: Take No Consensus (Takayuki Miura)
4. Team 01: KUdisc (Masaya Kobayashi)
5. Team 07: LIFAnonymous (Nancy Awad)
6. Team 02: nssol-alchemist (Ryosuke Nakata)
7. Team 10: Seven Team (Ángel García González, Video presentation)
8. Team 09: imutG (Xu Cui, Video presentation)
9. Team 06: DOG (Takeshi Mori)