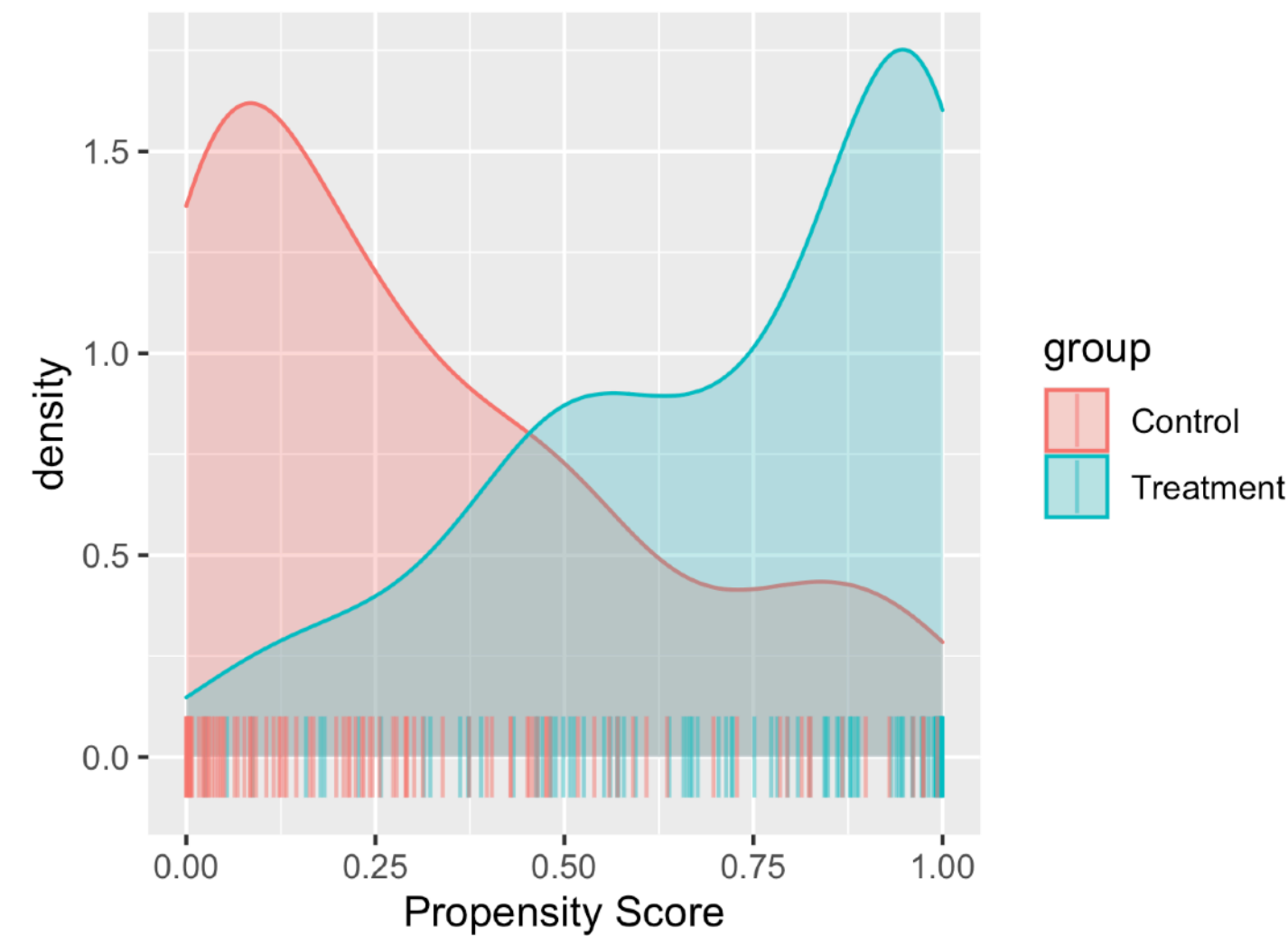# 산학 3차 수업

Summary and More

Yongwoo Jeong, AI TEAM Leader, Rowan

When to Use Propensity Score or Not?
Dark Side or Not?

Your data ratio

0.45~0.55

Emperor Propensity (Maybe)

Be a Purist

Mahalanobis Distance Matching

Examples and Codes

Prasanta Chandra Mahalanobis

29 June 1893 - 28 June 1972

Mean vector

$$D^2 = (x - \mu)^T S^{-1} (x - \mu)$$

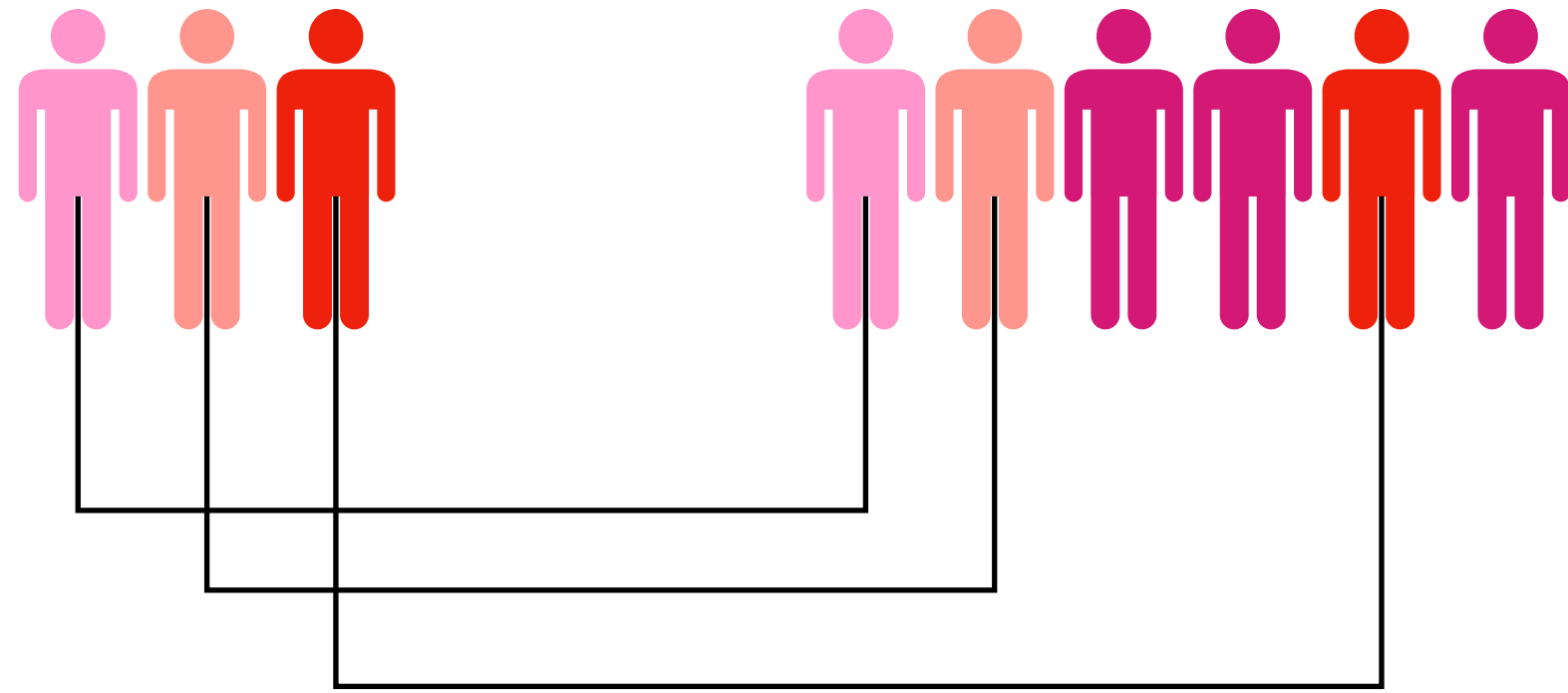Inverted of the covariance matrix S

Mahalanobis Distance Matching

: 데이터 내의 공분산 및 평균까지 매칭 시킬 수 있는 방법임

PID	Name	Surname	Gender	DoB	Country	StreetAddress	City	Postal
10000	Adena	Reeves	F	1962-08-28	Montenegro	P.O. Box 936, 9290 Aptent Ave	Morkhoven	71344
10001	Buffy	Warner	M	2009-05-25	Guinea-Bissau	P.O. Box 624, 5536 Nunc St.	Graz	68114-186
10002	Kaye	Green	F	1994-07-23	Norway	P.O. Box 650, 1264 Tellus. St.	Bojano	T04 3WO
10003	Keiko	Gonzalez	M	1973-12-27	Iraq	1889 Magna. Street	Chelsea	8064
10004	Kylynn	Carver	F	1974-01-22	Tanzania	Ap #357-247 Per Rd.	Oberhausen	53534
10005	Daquan	Sosa	F	1961-12-28	Holy See (Vatican City State)	Ap #727-5534 Mauris, Avenue	Eberswalde-Finow	5690ER
10006	Rebekah	Navarro	F	1974-02-01	Saudi Arabia	P.O. Box 698, 3686 Dui. Avenue	Wolvertem	2976
10007	Zane	Benson	M	2002-10-19	Mauritania	Ap #852-3480 Ornare Ave	Dufftown	1137
10008	Jennifer	Petty	F	1985-08-31	Isle of Man	598-2436 Sit Rd	Bathurst	71612

Mahalanobis Distance Matching
Examples and Codes

When Treated != Control?

Choose smaller data side: either control or treated

Match the smaller side only

Do not repeatedly match

Nearest Malahanobis Distance Matching Only