

- correction to data matrix below and to the interpretation of the covariance matrix too

<announce handout on board>

<HW collection>
resolution?

CS4786

1/29/15
Lec 3

set up a black bkgd desktop, so can have display on; still use board.

topic goals

pedagogical goals

- about the data matrix X
 - (fundamental to data science, altho' the network of relationships is implicit.)



relationships btwn $n; d$.

- about the covariance matrix Σ (is Σ better notation?)

- entry (i, j) tells you about the relationship btwn something

~~x_i~~ and ~~x_j~~ the i th feature and the j th feature (the columns of X).

- example of "looking" at the principal components:
 - what do they tell you about the structure of the data?

(if time)

- one or two practical considerations
 - preview: how big Σ ?

pedagogical goals

- Reassuring note: many of us only "got"/"got a feel for" linear algebra by doing data analysis!
- use apply geometric intuitions
- indicate potential pitfalls in looking @ alternate presentations (ex: some people use Σ for a diff. but related, matrix)
- show a (primitive) use of numpy in Python to reassure you that you needn't learn Matlab if you don't already know it.

