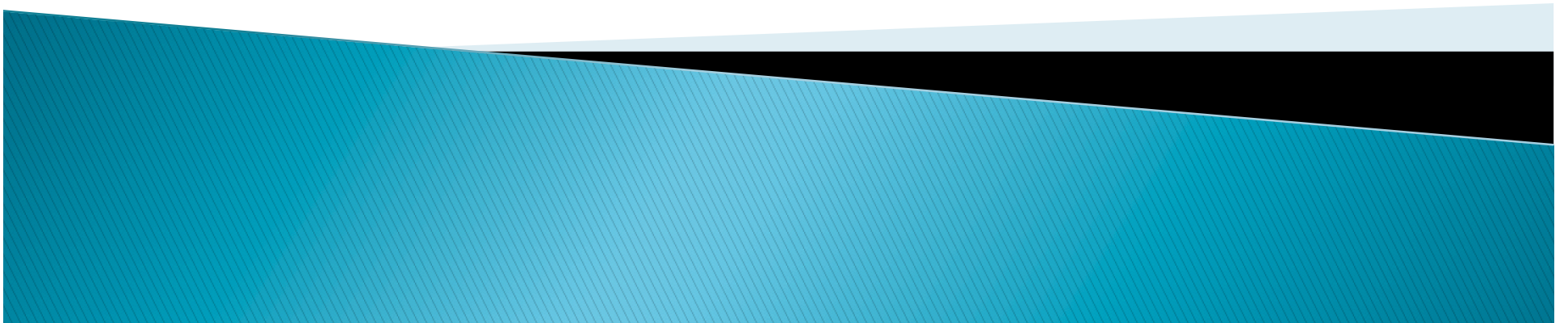# What Data Science Skills Do Our Students Need? Let's Ask Them!

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Let's ask...

- Students who took my multivariate data analysis course (Fall 2009 or Fall 2012)
  - With no prior statistics courses and who took no further statistics courses (from our department)
  - Asked what topics from the course they'd seen elsewhere; how taking the course had impacted them
- The course covered multivariate techniques and their applications without delving deeply into the underyling linear algebra.
- Students undertook course projects where they had to employ at least 2 techniques we'd covered.
- The R software was used.
- We now teach the course with a pre-req of intro stats.

Selected Student Responses

- Two are consultants; one is a research associate
- First consultant
  - "Most relevant for my current job is methods of data visualization for large data sets."
  - The course was useful for interviews.
- Second consultant
  - "In my job as a consultant I've used clustering, classification and factor analysis."
  - Having experience computing has been very useful.
- Research associate
  - Has seen lots of Principal components analysis
  - "Learning a statistical program/language relatively early in my college career was particularly valuable for the work I do now"

Summary

- Many possibilities lie before us
- Wide-range of topics to decide to cover or not
- Computing knowledge is certainly increasing in importance.
- See Wagaman, 2016, *The American Statistician*, http://www.tandfonline.com/doi/full/10.1080/00031305.2016.1201005

- What would your students say?