

MATH 3342: Statistics for Scientists and Engineers

Introduction and Section 1.1

What is Statistics?

- What do you think of when you hear “statistics” ?

What is Statistics?

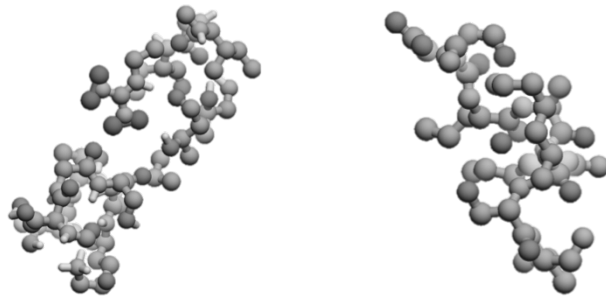
- Statistics is the *science* of collecting, organizing, summarizing, and interpreting **data**.
- It is also said to be the *science* of learning from **data**.
- Data: Information or facts that describe a group of interest
 - Not “*just*” numbers!
 - Context is key!

What I think of...

- Marketing and Politics
 - Conducting surveys to obtain opinions and feedback
- Public Health
 - Identifying sources of disease
 - Testing new drugs and treatments for diseases

What I think of...

- Bioinformatics and Molecular Biology
 - Developing new drugs and treatments
 - Studying the human genome
 - Using protein structures to predict protein functions

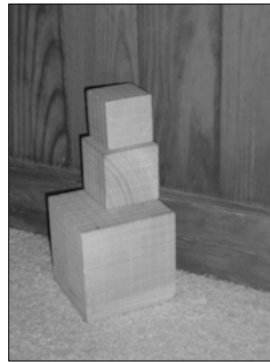
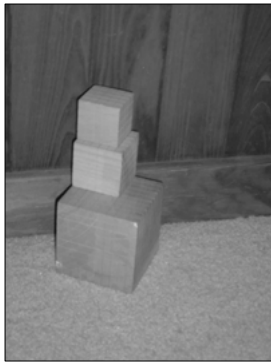


What I think of...

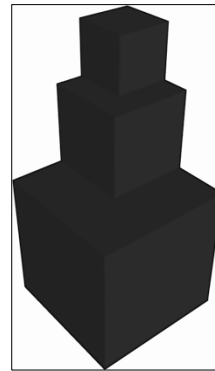
- Civil Engineering
 - Assessing effects of stress on structural elements
 - Studying impact of traffic flows on communities
- Materials Engineering
 - Studying properties of treatments to slow corrosion

What I think of...

- Image and Shape Analysis
 - Facial recognition
 - Checking if a product was correctly made according to a blueprint



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What I think of...

- Image and Shape Analysis
 - Distinguishing between objects

