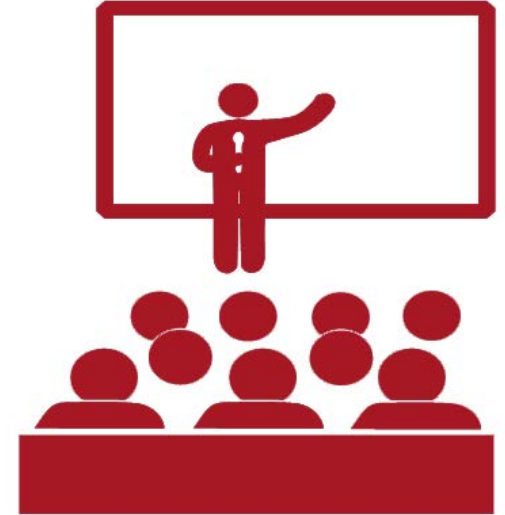


**Carnegie Mellon University**

Global Communication Center



# Delivering Effective Presentations

Juliann Reineke, PhD

Associate Director, Global Communication Center



# The Global Communication Center

Director, Joanna Wolfe, Ph.D.

[www.cmu.edu/gcc](http://www.cmu.edu/gcc)

# Delivering an Effective Presentation

1. Review the Assertion-Evidence Model
2. A structure for your presentation
3. Presentation strategies to increase attention and recall

# Assertion-Evidence Model

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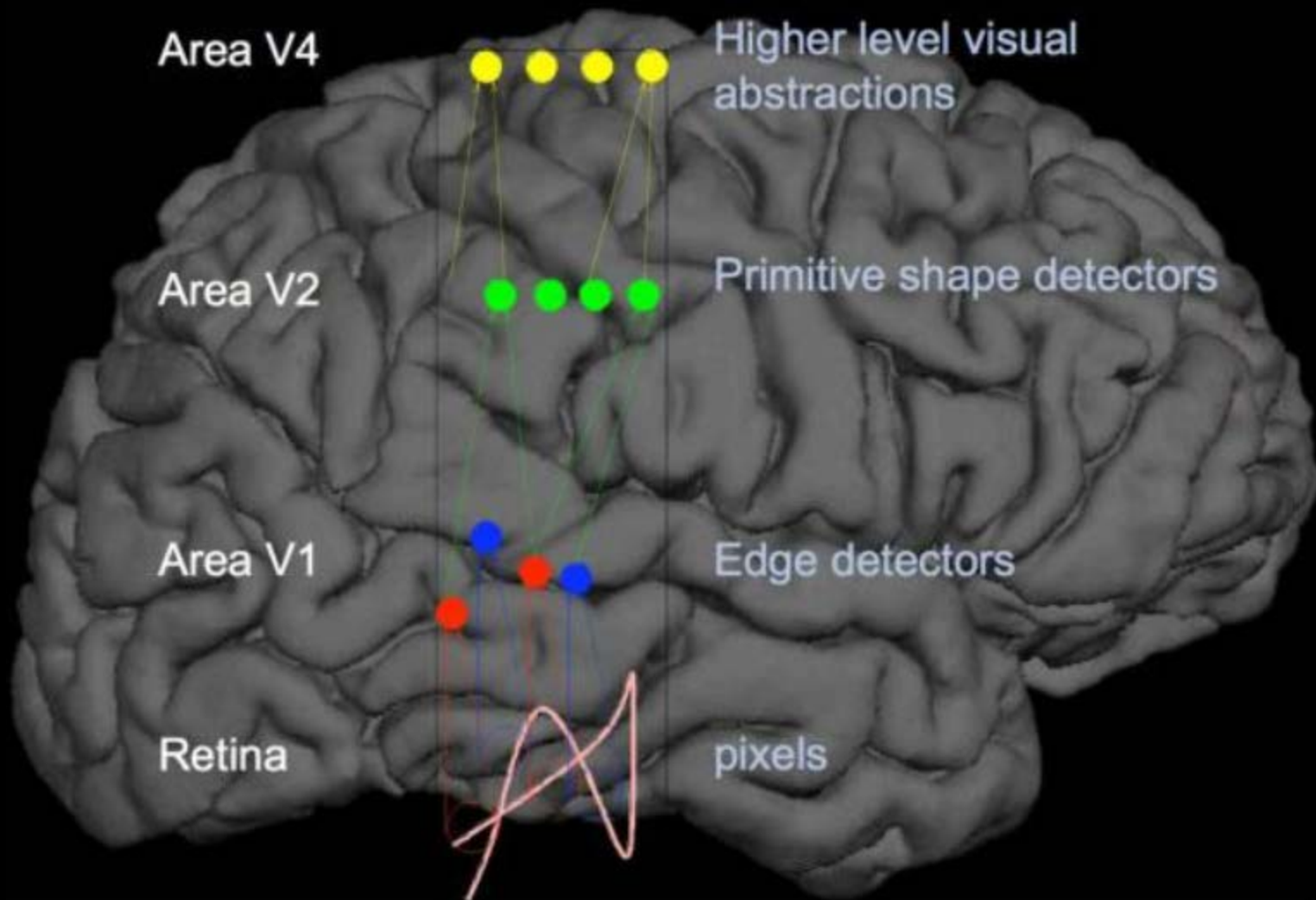
# Motivations for Deep Architectures

- Insufficient depth can hurt
  - With shallow architecture (SVM, NB, KNN, etc.), the required number of nodes in the graph (i.e. computations, and also number of parameters, when we try to learn the function) may grow very large.
  - Many functions that can be represented efficiently with a deep architecture cannot be represented efficiently with a shallow one.
- The brain has a deep architecture
  - The visual cortex shows a sequence of areas each of which contains a representation of the input, and signals flow from one to the next.
  - Note that representations in the brain are in between dense distributed and purely local: they are **sparse**: about 1% of neurons are active simultaneously in the brain.
- Cognitive processes seem deep
  - Humans organize their ideas and concepts hierarchically.
  - Humans first learn simpler concepts and then compose them to represent more abstract ones.
  - Engineers break-up solutions into multiple levels of abstraction and processing

# Digital Acquisition System Sampling

- Vibration measured by accelerometer
  - Analog voltage produced
  - Sinusoidal shape
- Analog signal converted to digital signal
- Signal sampled at a specific rate
- Rate → high enough to retain analog shape

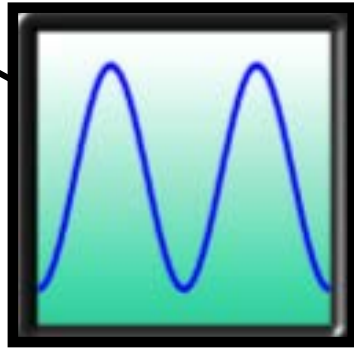
Deep learning is modeled on the brain's multi-layered, sparse, hierarchical, structure



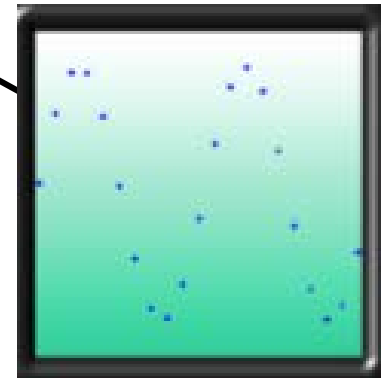
# A digital acquisition system has to sample at a rate fast enough to retain the shape of the analog signal



Measurement Device

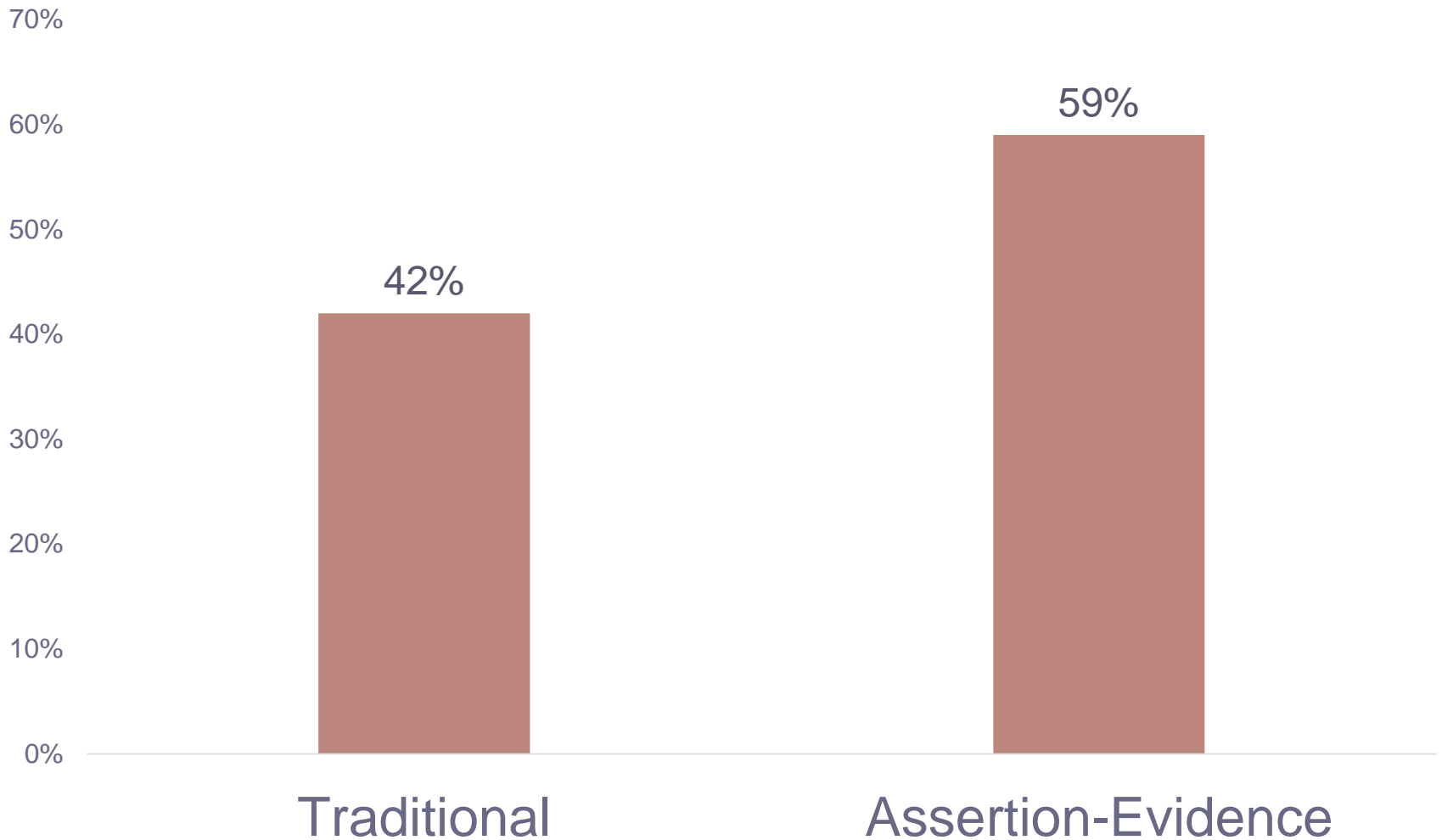


Analog-to-Digital Converter

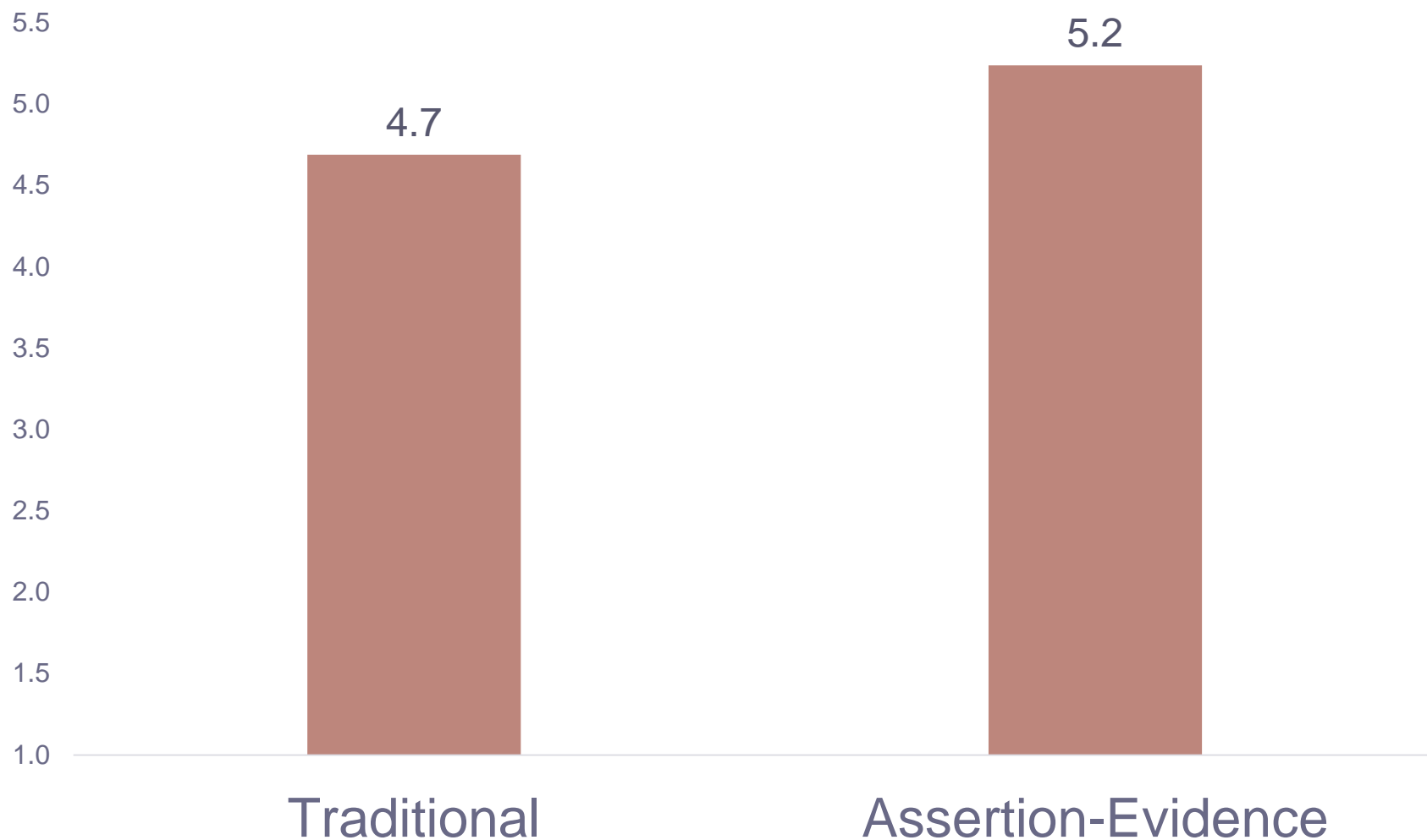




# Engineering students did better on tests with the assertion-evidence design



# CMU grad students using assertion-evidence gave more effective conference presentations



# Results on the ILSVRC-2010 dataset

Model	Top-1	Top-5
Sparse Coding (Lin et al., 2010)	47.1	28.2
SIFT + Fisher Vectors (Sanchez and Perronnin, 2011)	45.7	25.7
Conv Net + dropout (Krizhevsky et al., 2012)	37.5	17.0

# Convolutional nets with dropout outperform other methods by a large margin

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# ANALYZING YOUR SLIDES

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5 min small group discussion

In groups of 2-4, exchange your sample slides.

Look for:

- \*complete sentence headings

- \*headings that accurately reflect the visual

- \*residual/unnecessary text

# The slowest 5% of requests is responsible for half of the total 99%-percentile latency

	<b>50%ile latency</b>	<b>95%ile latency</b>	<b>99%ile latency</b>
One random leaf finishes (ms)	1	5	10
95% of all leaf requests finish (ms)	12	32	<b>70</b>
100% of all leaf requests finish (ms)	40	87	<b>140</b>



# STRUCTURING YOUR PRESENTATION

---

Begin presentations with a problem or question and then answer that question

```
graph TD; A[Problem] --> B[Solution]; B --> C[Evaluation];
```

**Problem**

**Solution**

**Evaluation**

# Highlight critical information from each section of the report

## **Problem**

Introduction

Literature Review,  
Problem framework,  
Related Work

# Highlight critical information from each section of the report

## Problem

Introduction

What is the larger problem?  
Why is it significant? What is the objective?

Literature Review,  
Problem framework,  
Related Work

What have other people done or found?  
What still remains unanswered/what is a gap or problem?

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## **Solution**

Method, Analysis

# Highlight critical information from each section of the report

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Method, Analysis

What did this study do? What are the most noteworthy aspects of what they did?

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Introduction

What is the larger problem?  
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Literature Review,  
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<b>Problem</b>	Introduction	What is the larger problem? Why is it significant? What is the objective?
	Literature Review, Problem framework, Related Work	What have other people done or found? What still remains unanswered/what is a gap or problem?
<b>Solution</b>	Method, Analysis	What did this study do? What are the most noteworthy aspects of what they did?
<b>Evaluation</b>	Results & Discussion	
	Conclusion	



# Highlight critical information from each section of the report

<b>Problem</b>	Introduction	What is the larger problem? Why is it significant? What is the objective?
	Literature Review, Problem framework, Related Work	What have other people done or found? What still remains unanswered/what is a gap or problem?
<b>Solution</b>	Method, Analysis	What did this study do? What are the most noteworthy aspects of what they did?
<b>Evaluation</b>	Results & Discussion	What did the study find? Why are those results significant?
	Conclusion	What are some limitations? What are avenues for future work? What are the implications of this study?

# PRESENTATION SKILLS

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Hammer in your bottom line through effective redundancy



Having a bottom line applies to slides, too

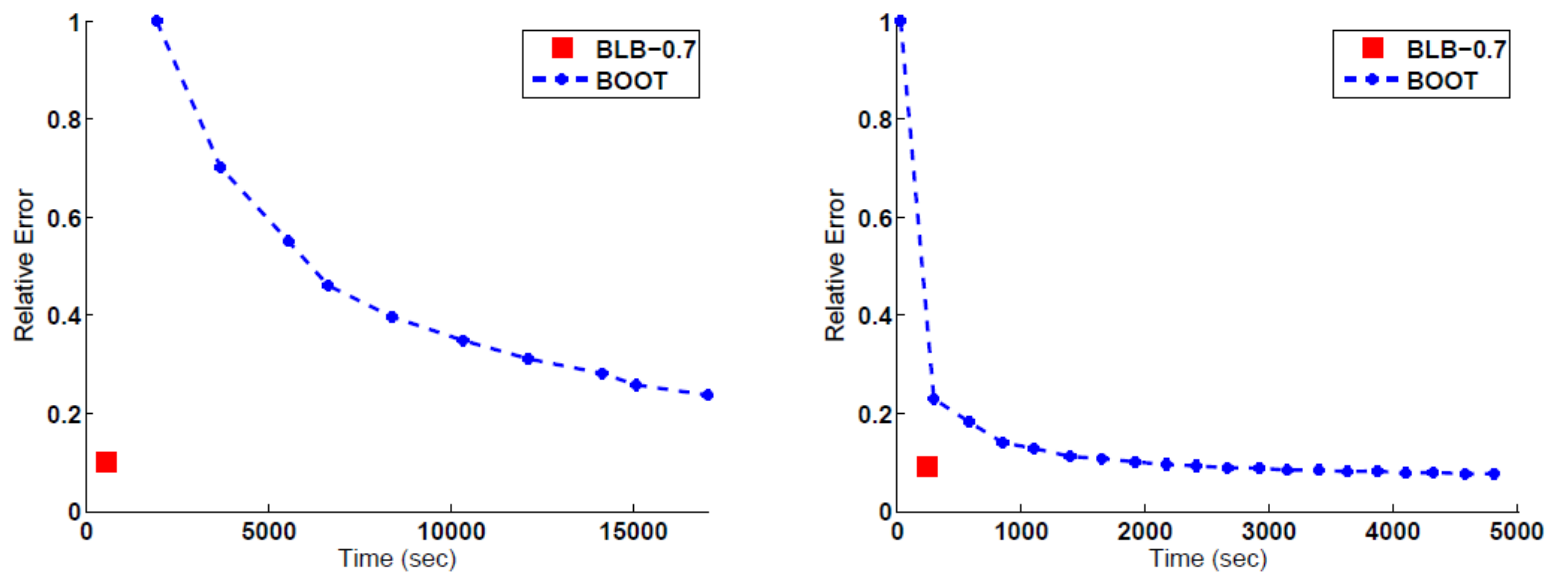
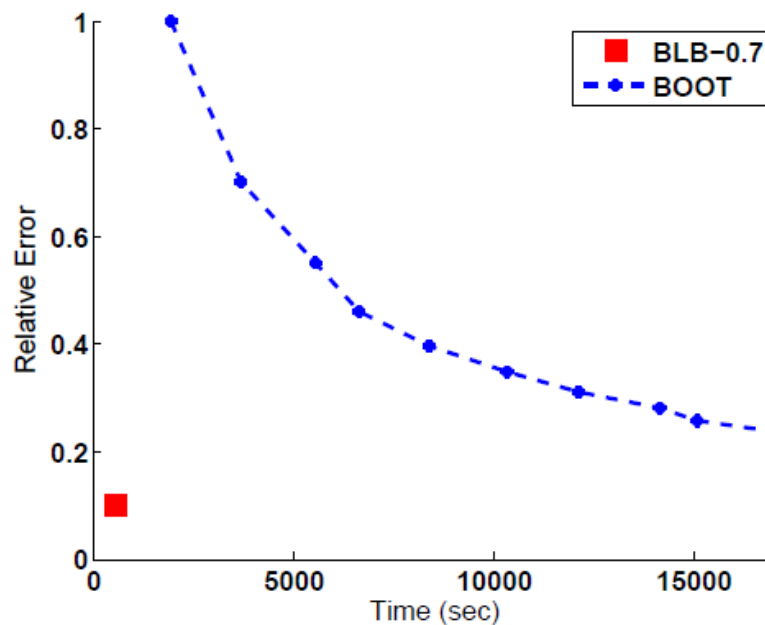
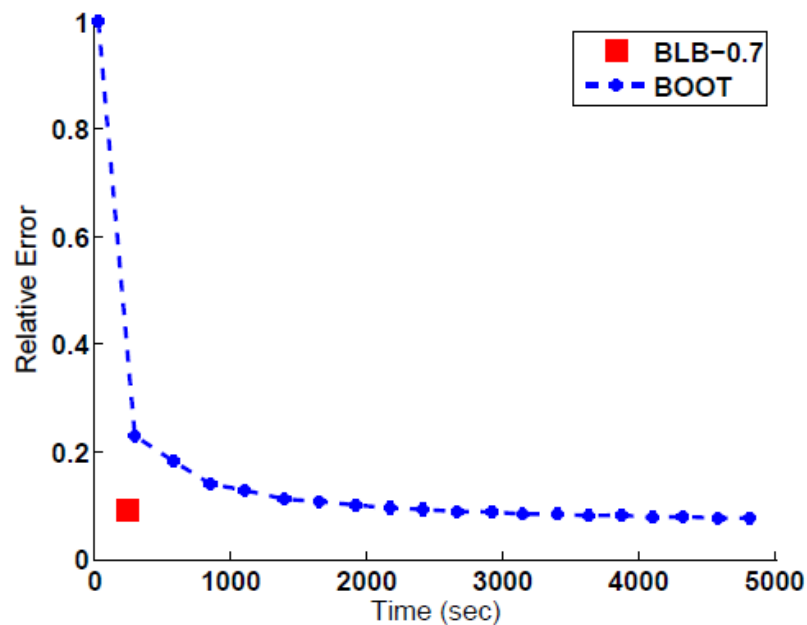


Figure 4: Relative error vs. processing time for BLB (with  $b = n^{0.7}$ ) and the bootstrap (BOOT) on 150 GB of data in the classification setting. The left plot shows results with the full dataset stored only on disk; the right plot shows results with the full dataset cached in memory. Because BLB’s computation is fully parallelized across all subsamples, we show only the processing time and relative error of BLB’s final output.

# BLB provides high-accuracy output in less time than bootstrapping can process a single resample

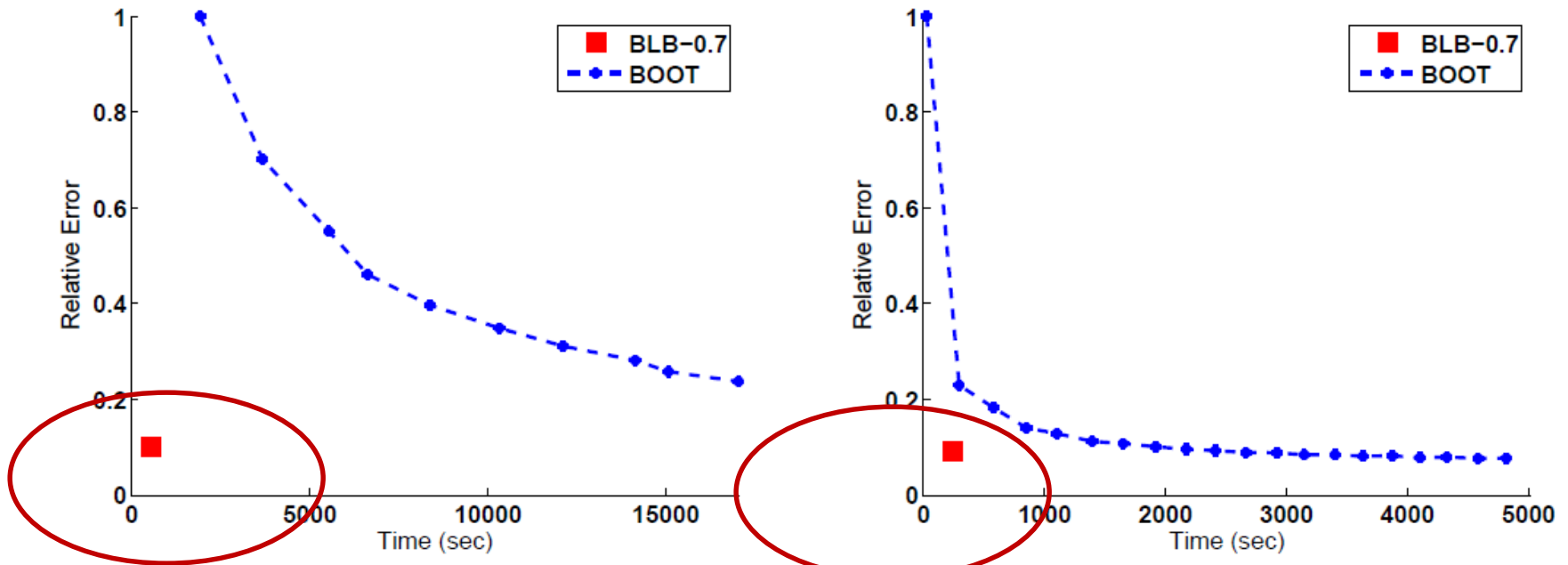


10 worker nodes  
60 GB memory



20 worker nodes  
240 GB memory

# BLB provides high-accuracy output in less time than bootstrapping can process a single resample



10 worker nodes  
60 GB memory

20 worker nodes  
240 GB memory

# Have a natural conversation: speak **to** people – not **at** them

Pauses



Intonation

Pace

Ask questions  
and check-in



# Practice!



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**Delivering Effective Presentations**

Juliamm Reineke, PhD  
Associate Director, Global Communication Center

The slide features a white background with a thin black border. In the top left, the Carnegie Mellon University logo is displayed in red. In the top right, there is a red icon depicting a person standing at a whiteboard, addressing a group of people represented by red circles. The main title, 'Delivering Effective Presentations', is centered in a large, bold, black font. Below the title, the presenter's name and title are listed in a smaller black font.

# Practice! In front of other people

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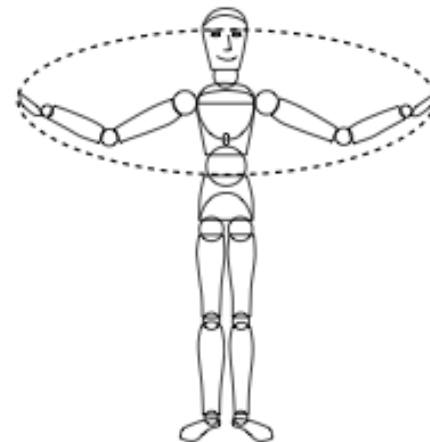


## Delivering Effective Presentations

Juliam Reineke, PhD  
Associate Director, Global Communication Center



# Take up space with your stance and gestures



“ Think of your voice like a wind instrument. You can make it louder, softer, faster, or slower. We are wired to pay attention to these kinds of vocal change, which is why **it is so hard to listen to a monotonous speaker.** In fact, even just a 10% increase in vocal variety can have a highly significant impact on your audience’s attention to and retention of your message. ”

*Matt Abrahams*



# Interact with visual aids

The video shows a presentation slide with the title "Remember the SOP has a distinct function". The slide features a central stick figure with two boxes below it. The left box is labeled "CV/ Resume" and the right box is labeled "Statement of Purpose". A "vs" symbol is placed between the two boxes. A presenter is pointing at the "Statement of Purpose" box. The video player interface at the bottom shows a timestamp of 12:30 and a total duration of 1:09:14.

Body language and emphasizing your bottom line are crucial during a Q + A

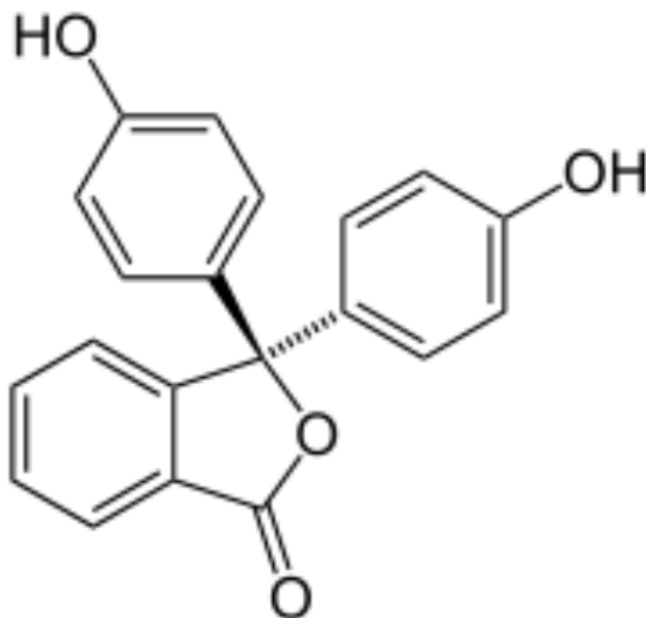
# Common struggles and questions

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# How Do Indicators

## Work?

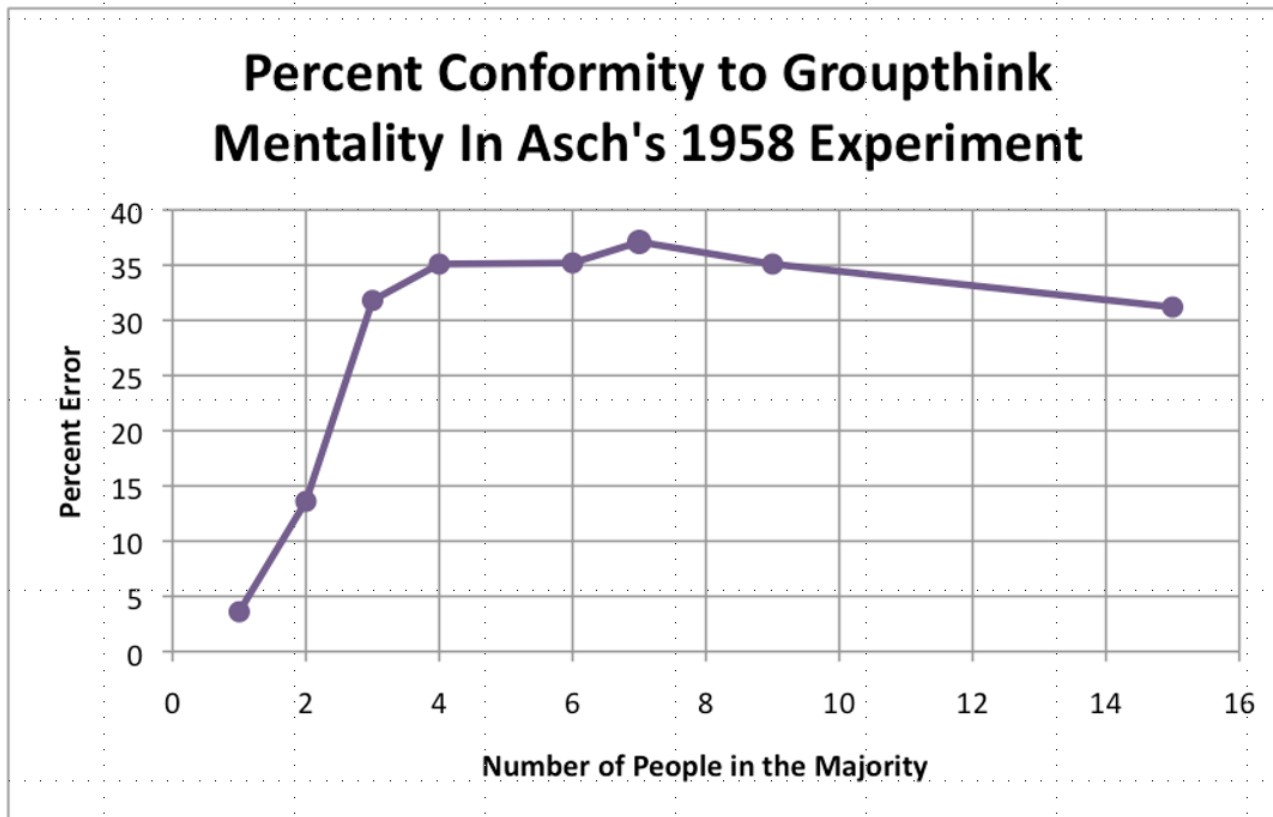
- An indicator tells you whether a solution is acidic or basic
- The most common indicator is phenolphthalein





# Groupthink Mentality

The findings of Solomon Asch's study on conformity depicted that on average, individual's will change their opinion to match the opinion of the majority up to **1/3 of the time** when the majority is at least 3.



Free throws (also called foul shots) are especially important because they are “free”, uncontested shots that could make the difference in a game loss or win.



# What if I *need* a bulleted list?

## Methodology: Data Collection

- An e-mail was sent to Nutrition Department faculty requesting assistance in the administration of the in-class tool
- The e-mail stated this was for a graduate research project, and the IRB proposal had been approved, it stated the general premise of the survey. It also stated it was a voluntary survey, that there was no right or wrong response, and that it would take approximately five minutes.
- Surveys were completed in class, time estimated was 5 minutes per student
- Surveys were returned in sealed envelopes

WAIT. Isn't this model too radical?



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