



# Ethics: Choices and Values

QUALITY

5.0

CS101

😎 AWESOME

May 21st, 2015

DIFFICULTY

1.0

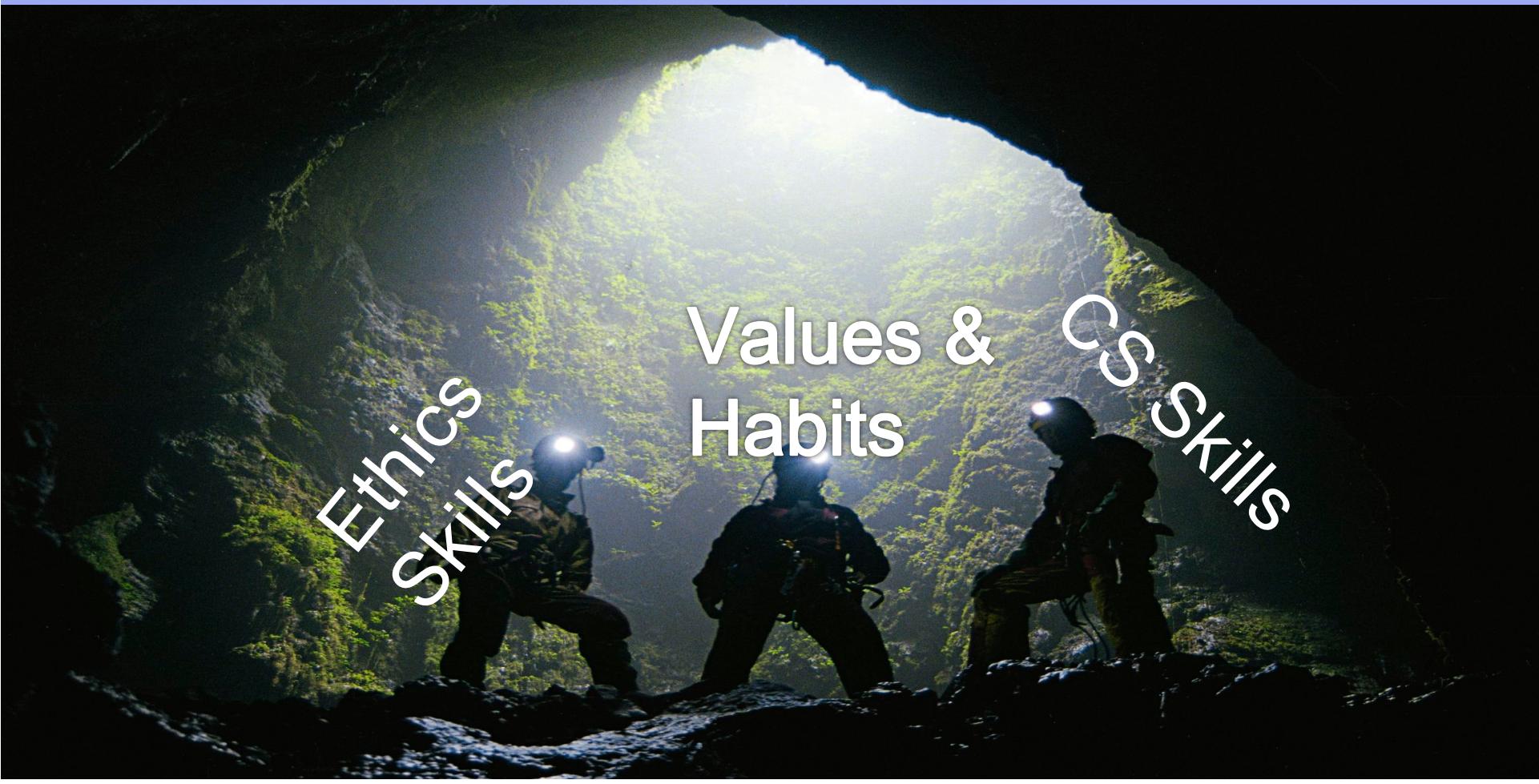
Attendance: Not Mandatory Grade: A Textbook: Yes Online Class: Yes

This class was awesome. A beginner like me that has ~~never done~~ anything further than facebook on a computer, Professor Nick was very ~~clear~~ and easy to listen to. I ~~very~~ much enjoyed the lectures and how easy it was to learn from such a great teacher. Thank you for all that you do

1 2 1



# You Have The Power to Find Out!

A photograph of three scuba divers in a dark, rocky cave. They are wearing scuba gear and headlamps. Light rays from the surface above illuminate the water and the divers. The background is a bright, sunlit area of the cave.

Values &  
Habits

Ethics  
Skills

CSS Skills



## What is Bias?

Difference between measured results and “true” value

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Difference between measured results and “true” value







**Sampling Bias: Learn More in Future CS Classes!**





What Kinds of Bias Raise  
Ethical Concerns?



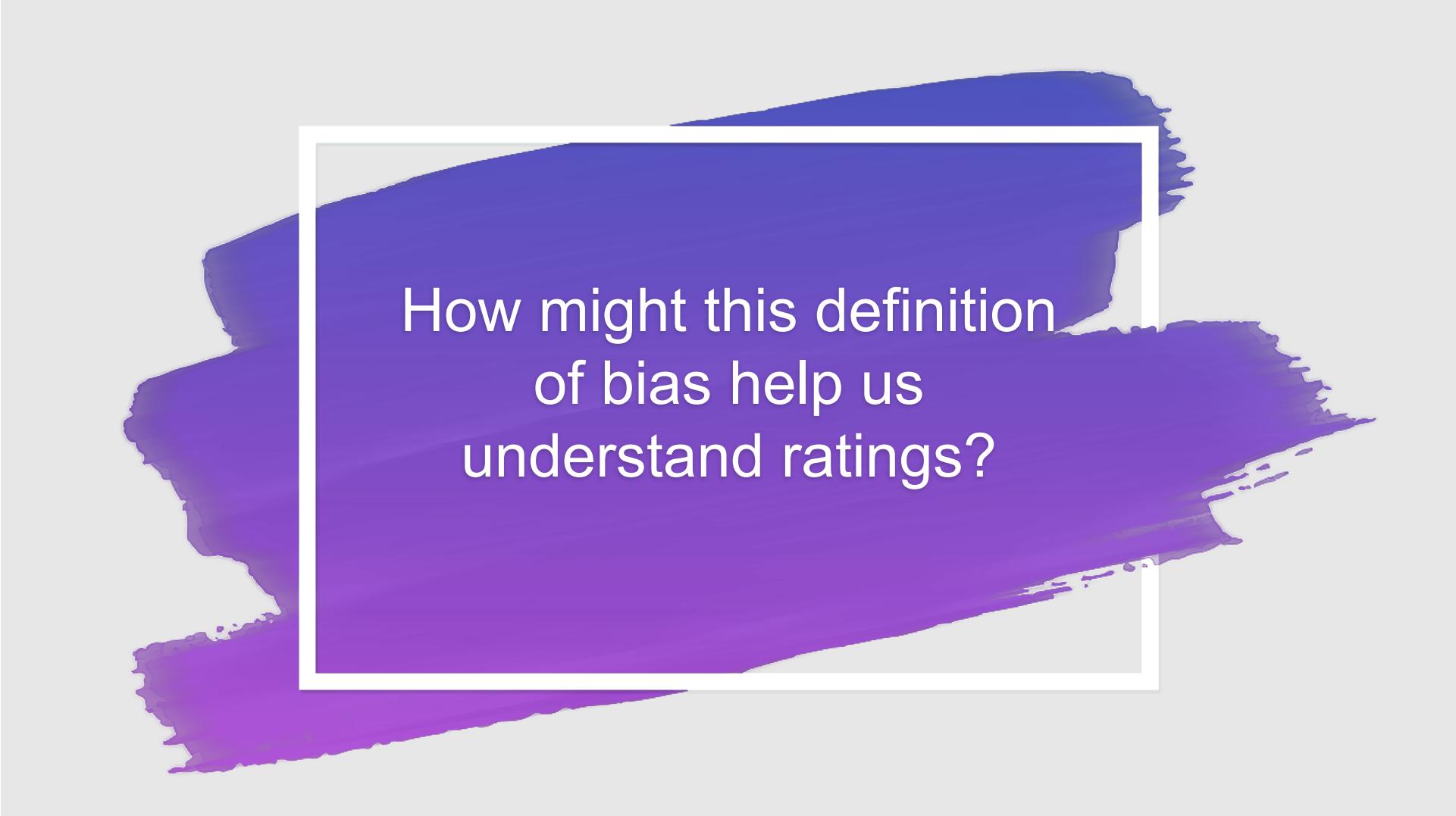


## Discriminatory Bias

### Biased Measurement or Classification

+ use of that bias to compound  
existing injustice or fail to treat  
all as having equal moral worth

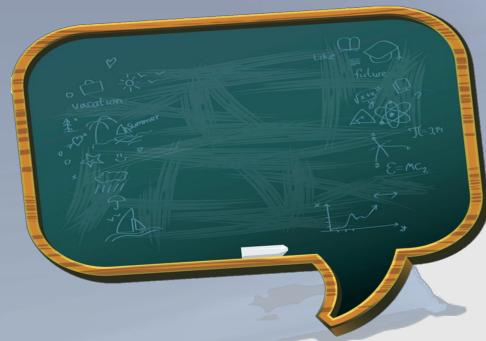
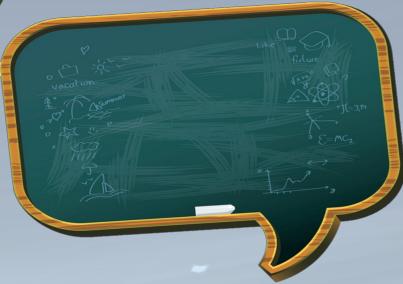
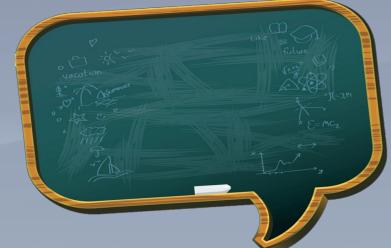
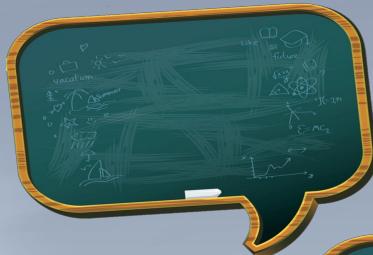
=> Unfair Bias



How might this definition  
of bias help us  
understand ratings?

## Equality of Opportunity:

**everyone has same opportunity to develop skills needed for the job, apply for the job, and get promoted.**



**Parity: Everyone is equally likely to be a good teacher, so we should expect to end up with number of good teachers (and high rankings) proportionate to population.**



## Simulating loan decisions for different groups

Drag the black threshold bars left or right to change the cut-offs for loans.  
Click on different preset loan strategies.

### Loan Strategy

Maximize profit with:

**MAX PROFIT**

No constraints

**GROUP UNAWARE**

Blue and orange thresholds are the same

**DEMOGRAPHIC PARITY**

Same fractions blue / orange loans

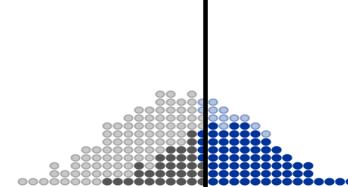
**EQUAL OPPORTUNITY**

Same fractions blue / orange loans to people who can pay them off

### Blue Population

0 10 20 30 40 50 60 70 80 90 100

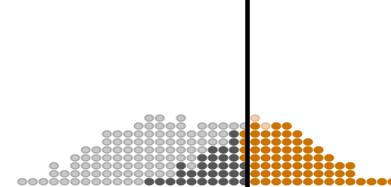
loan threshold: 59



### Orange Population

0 10 20 30 40 50 60 70 80 90 100

loan threshold: 53



denied loan / would default  
denied loan / would pay back

granted loan / defaults  
granted loan / pays back

denied loan / would default  
denied loan / would pay back

granted loan / defaults  
granted loan / pays back

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# FAIRNESS BEYOND THE NUMBERS

AWESOME

CLEAR

QUALITY

**5.0**

DIFFICULTY

**1.0**



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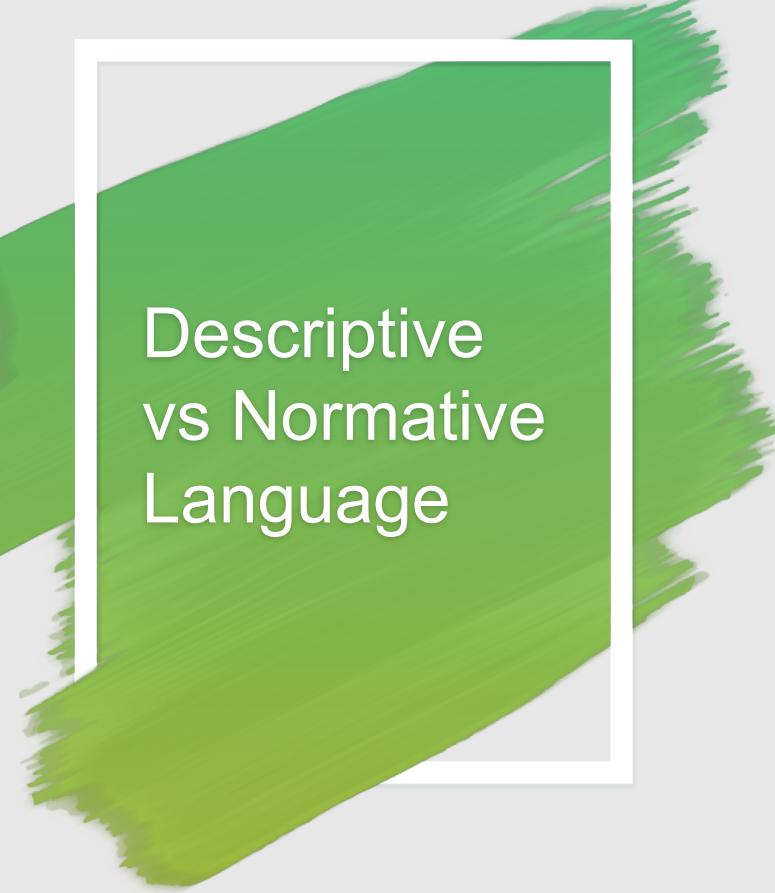
May 21st, 2015

Attendance: **No** Mandatory Grade: **A** Textbook: **Yes** Online Class: **Yes**

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GREAT TEACHER





## Descriptive vs Normative Language

### Descriptive Language:

- is
- was
- what
- happened
- what people
- did

### Normative Language:

- right
- Wrong
- Good
- Bad
- Should
- Should not

# Descriptive or Normative?

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Attendance: **Not Mandatory** Grade: **A**

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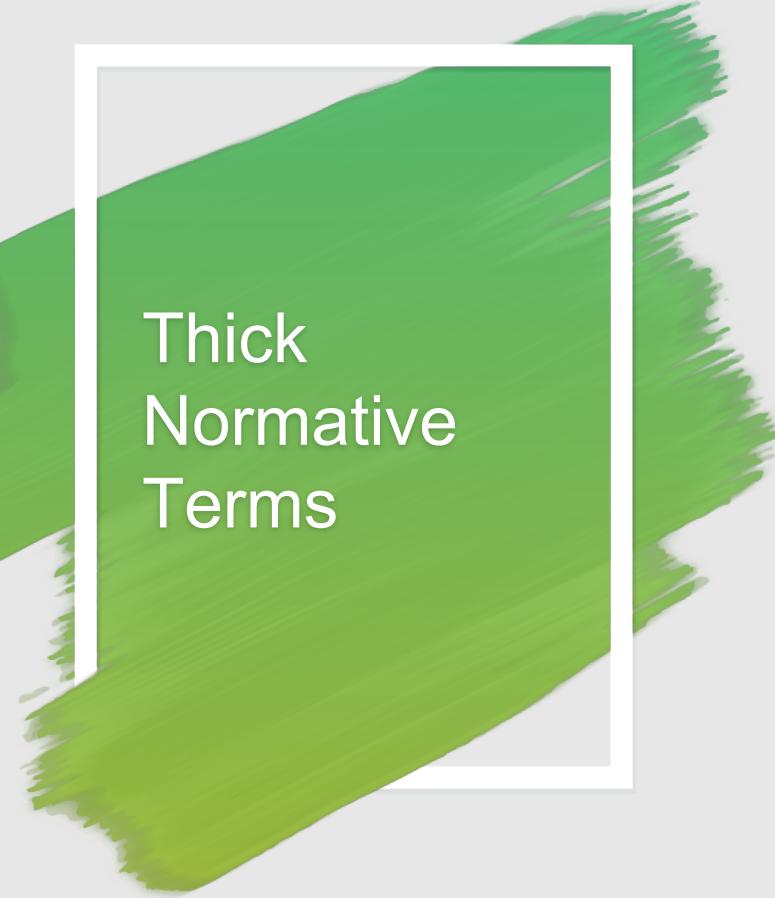




**Descriptive**



**normative**

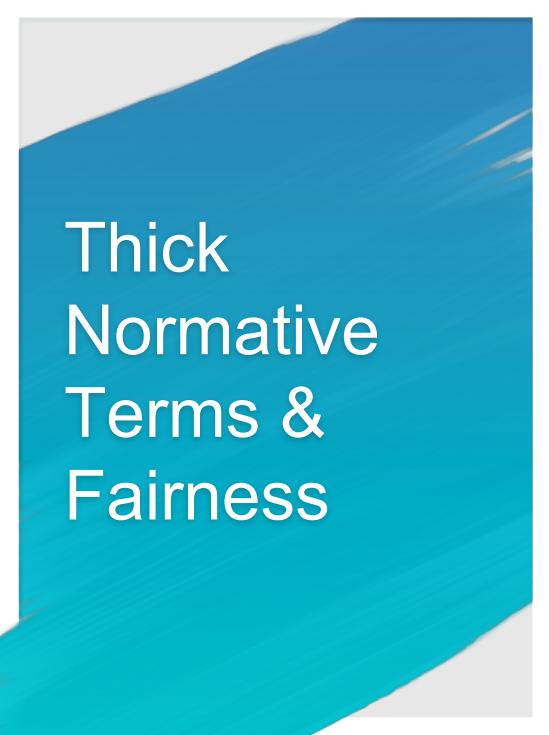


## Thick Normative Terms

“Thick”  
normative  
terms are both  
descriptive and  
normative

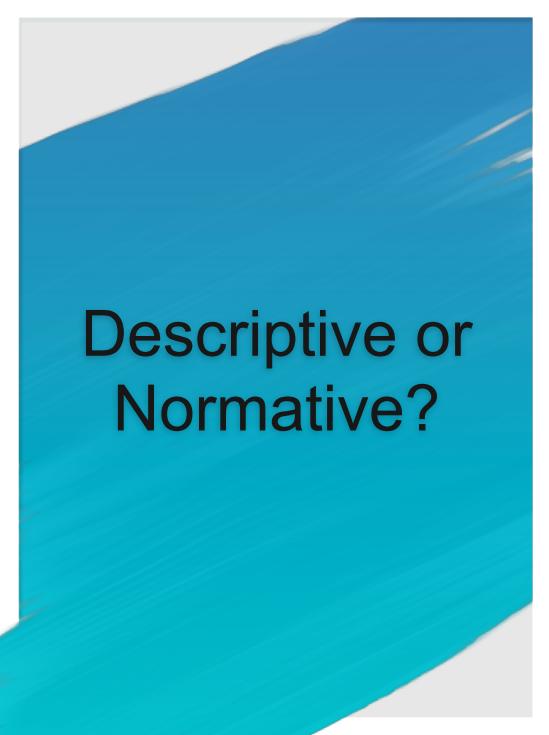
Examples:

- Cowardly : cautious
- Polite : (?)
- Rude : (?)
- Chill
- Kind
- etc



## Thick Normative Terms & Fairness

- We compare people in many ways, not just numerically
- Thick normative terms express “loaded” judgments



## Descriptive or Normative?

Mark Zuckerberg on whether Facebook would fact-check false claims about election suppression:

1. “We have a different policy, I think, than Twitter on this.”
2. “You know, I just believe strongly that Facebook shouldn’t be the arbiter of truth of everything that people say online.”
3. “I think in general private companies probably shouldn’t be—or, especially these platform companies—shouldn’t be in the position of doing that.”



## Descriptive or Normative?

Not surprising that statements setting the policy for platforms would be normative.

What about the programs behind the platforms themselves?

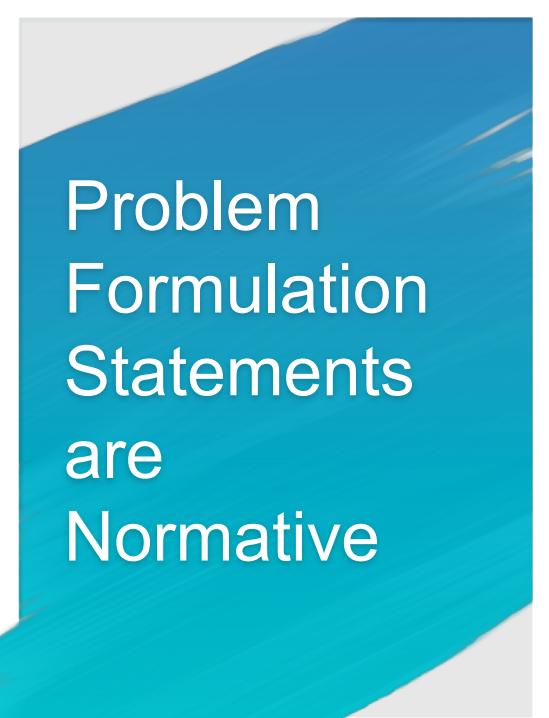
Do programs like the ones you are writing contain normative claims or values?

“

How are values  
embedded in design?

## 1. Problem Formulation Embeds Values

Formulating a problem means describing the desired solution as good or worthy of being done.

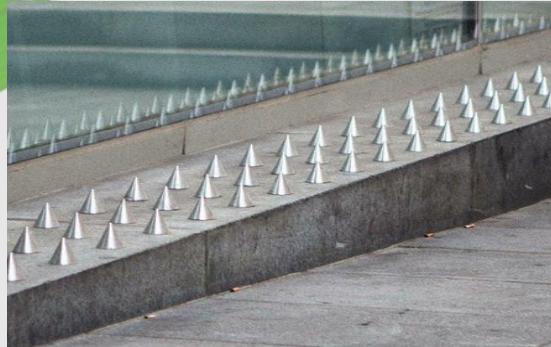


Problem  
Formulation  
Statements  
are  
Normative

- Formulating a problem means describing the desired solution as good or worthy of being done.
- What is the problem to be solved?
- For whom is this a problem? Who would benefit from its solution?
- Who can agree that this is a problem worth solving?

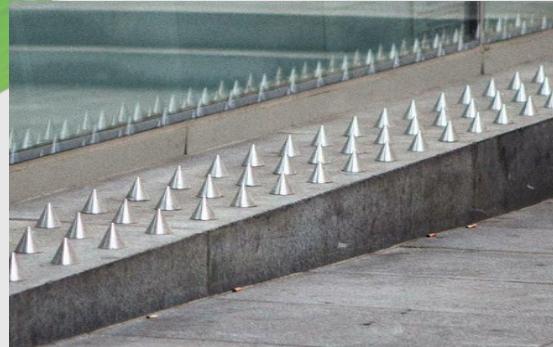
## What is the Problem to be Solved?

“Homeless people are sleeping here and we (who is we?) want them to stop”



## What is the Problem to be Solved?

“Homeless people are sleeping here and we (who is we?) want them to stop”



“Some people in our community don’t have a place to sleep and we (who is we?) think they should”



## Problem Formulation: Ratings & Search



## Formulating a Ratings Problem

RATE A  
**professor**

- What are the problem(s) to be solved?
- For whom are these problems? Who would benefit from their solution(s)?
- For each problem, who can agree that the problem is worth solving?

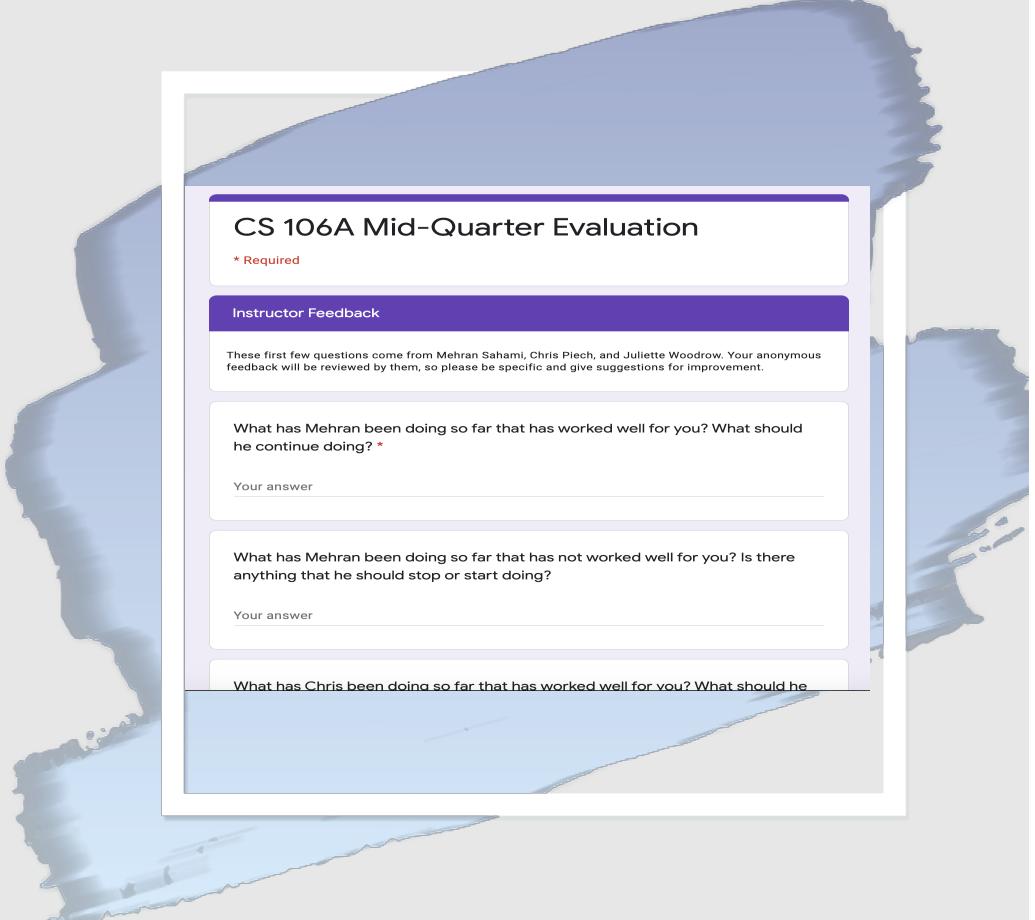
## Formulating a Search Problem



- What are the problem(s) to be solved?
- For whom are these problems? Who would benefit from their solution(s)?
- For each problem, who can agree that the problem is worth solving?

## 2. Choice of Data Embeds Values

- Surveys are cheap to run
- They measure opinions
- What are other ways to measure quality of professors?



CS 106A Mid-Quarter Evaluation

\* Required

Instructor Feedback

These first few questions come from Mehran Sahami, Chris Piech, and Juliette Woodrow. Your anonymous feedback will be reviewed by them, so please be specific and give suggestions for improvement.

What has Mehran been doing so far that has worked well for you? What should he continue doing? \*

Your answer

What has Mehran been doing so far that has not worked well for you? Is there anything that he should stop or start doing?

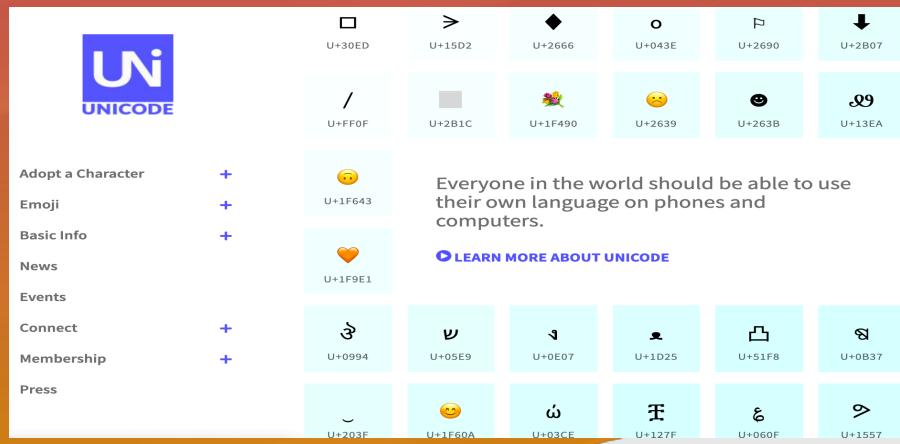
Your answer

What has Chris been doing so far that has worked well for you? What should he

# Under- representation and the Long Tail



Unicode covers  
over 1 million symbols,  
Full coverage of 90 languages,  
basic coverage for 200 languages

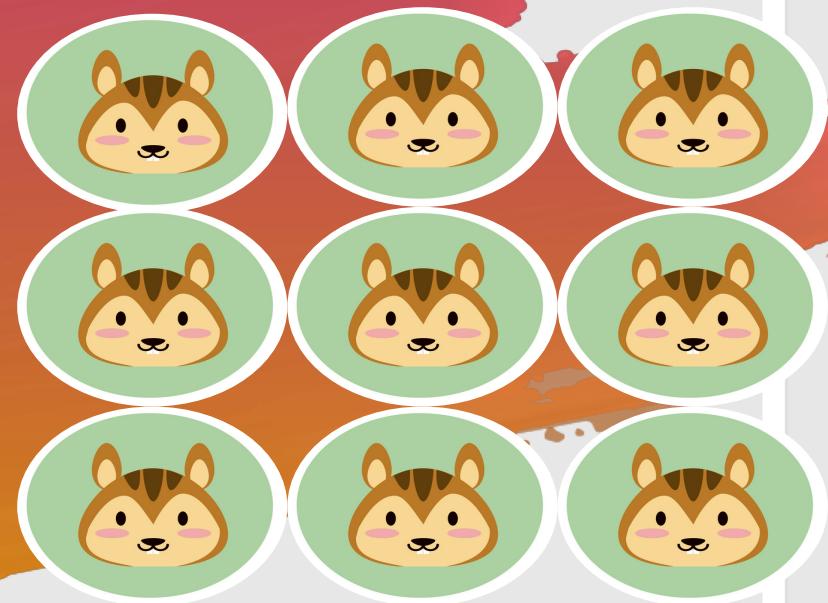


The image is a screenshot of the Unicode website's homepage. It features a large, stylized, multi-layered background with a gradient from white to red, orange, and yellow. In the center, there is a white rectangular area containing the Unicode logo (a blue square with 'UN' in white) and a grid of various Unicode characters. Below the grid, there is a list of links with corresponding emoji icons, and a central text block about language coverage.

**UNICODE**

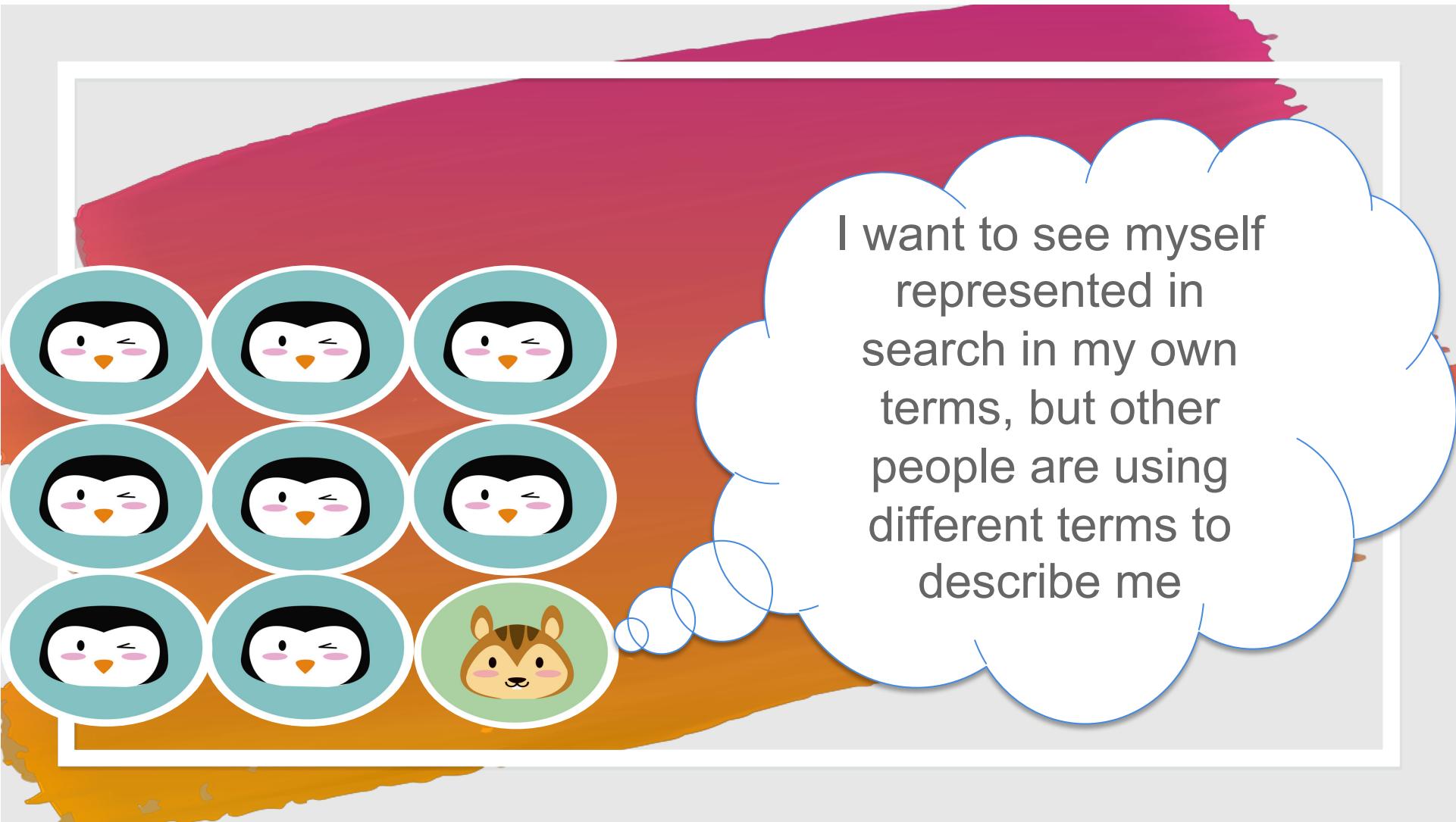
□ U+30ED	> U+15D2	◆ U+2666	○ U+043E	▷ U+2690	⬇ U+2B07	
/ U+FF0F	▀ U+2B1C	𠂇 U+1F490	𠂇 U+2639	𠂇 U+263B	𠂇 U+13EA	
Adopt a Character	+ 😊 U+1F643	Everyone in the world should be able to use their own language on phones and computers.				
Emoji	+ 😊 U+1F643	<a href="#">LEARN MORE ABOUT UNICODE</a>				
Basic Info	+ 🍀 U+1F9E1					
News	+ 🍀 U+1F9E1					
Events	+ 🍀 U+1F9E1					
Connect	+ ດ U+0994	່ U+05E9	້ U+0E07	໊ U+1D25	໌ U+51F8	ໍ U+0B37
Membership	+ ດ U+0994	່ U+05E9	້ U+0E07	໊ U+1D25	໌ U+51F8	ໍ U+0B37
Press	+ ດ U+0994	່ U+05E9	້ U+0E07	໊ U+1D25	໌ U+51F8	ໍ U+0B37

## Representation & Surveys

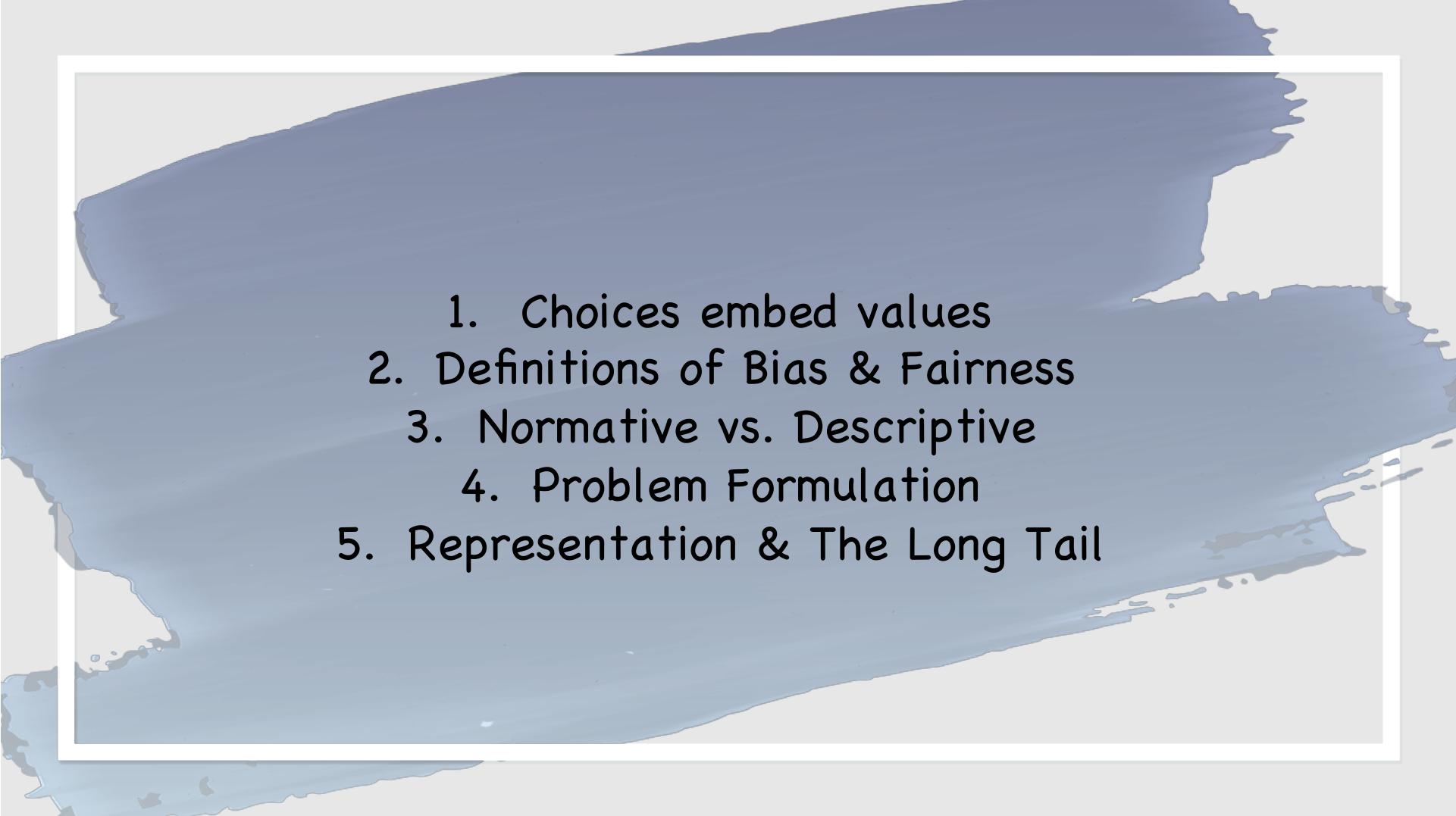




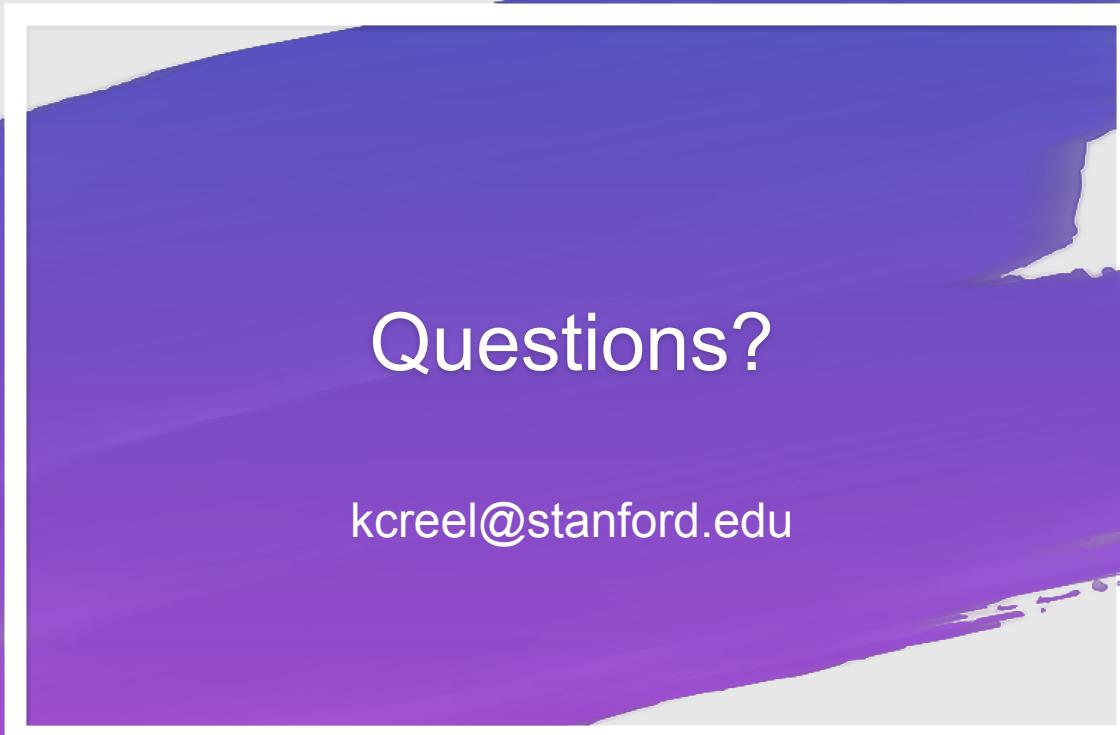
If I had a different experience, my ratings may not affect the numerical average – but they matter!



I want to see myself  
represented in  
search in my own  
terms, but other  
people are using  
different terms to  
describe me



1. Choices embed values
2. Definitions of Bias & Fairness
3. Normative vs. Descriptive
4. Problem Formulation
5. Representation & The Long Tail



Questions?

[kcreel@stanford.edu](mailto:kcreel@stanford.edu)