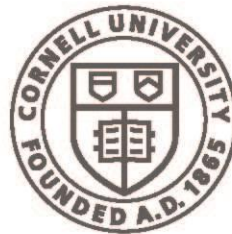
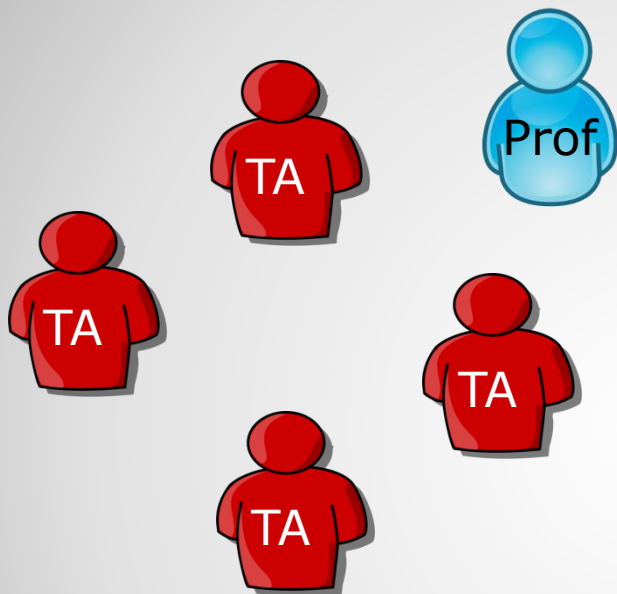


Preparing undergraduate teaching assistants for success

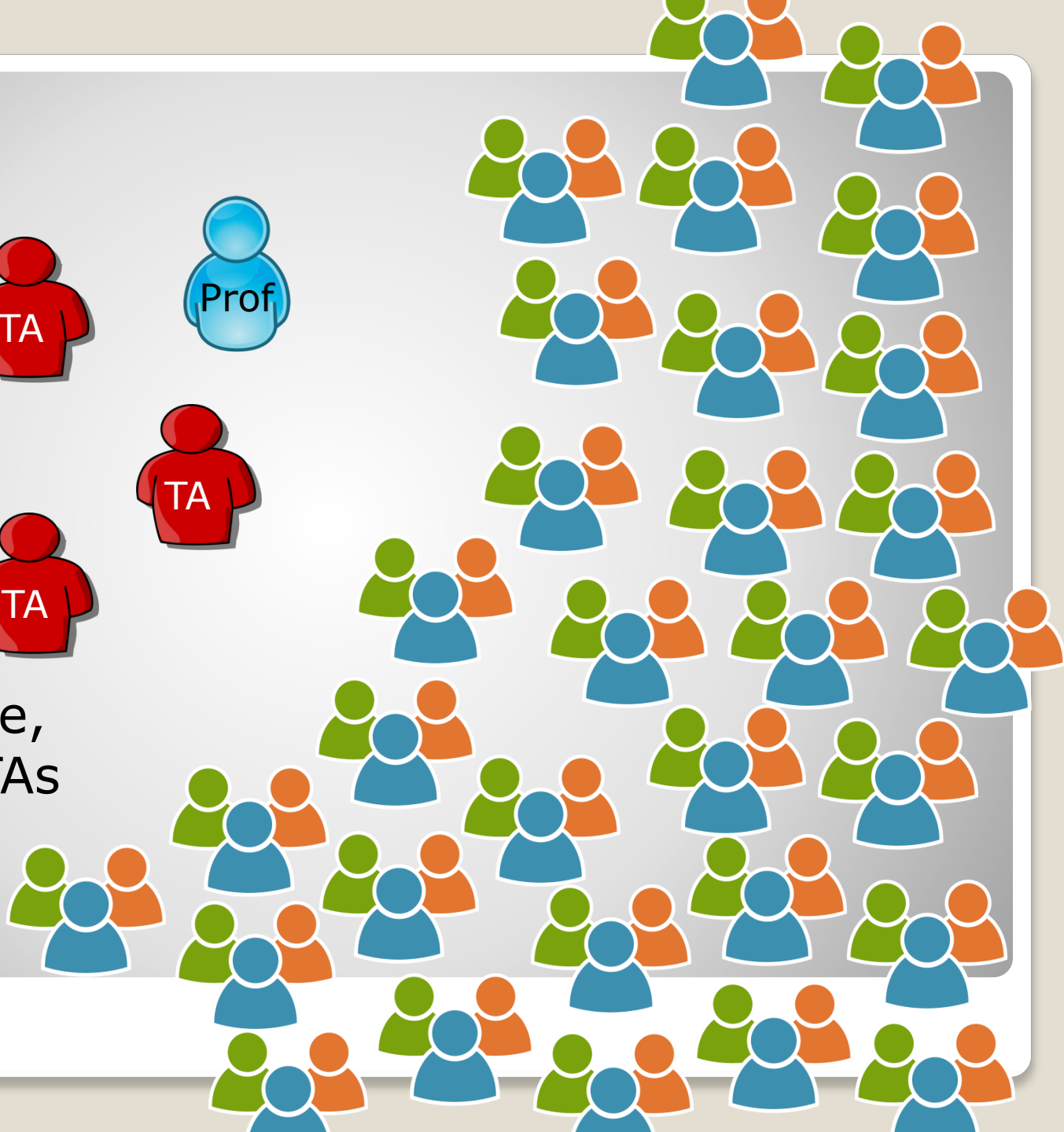
K.-Y. Daisy Fan, PhD



Cornell CIS
Computer Science

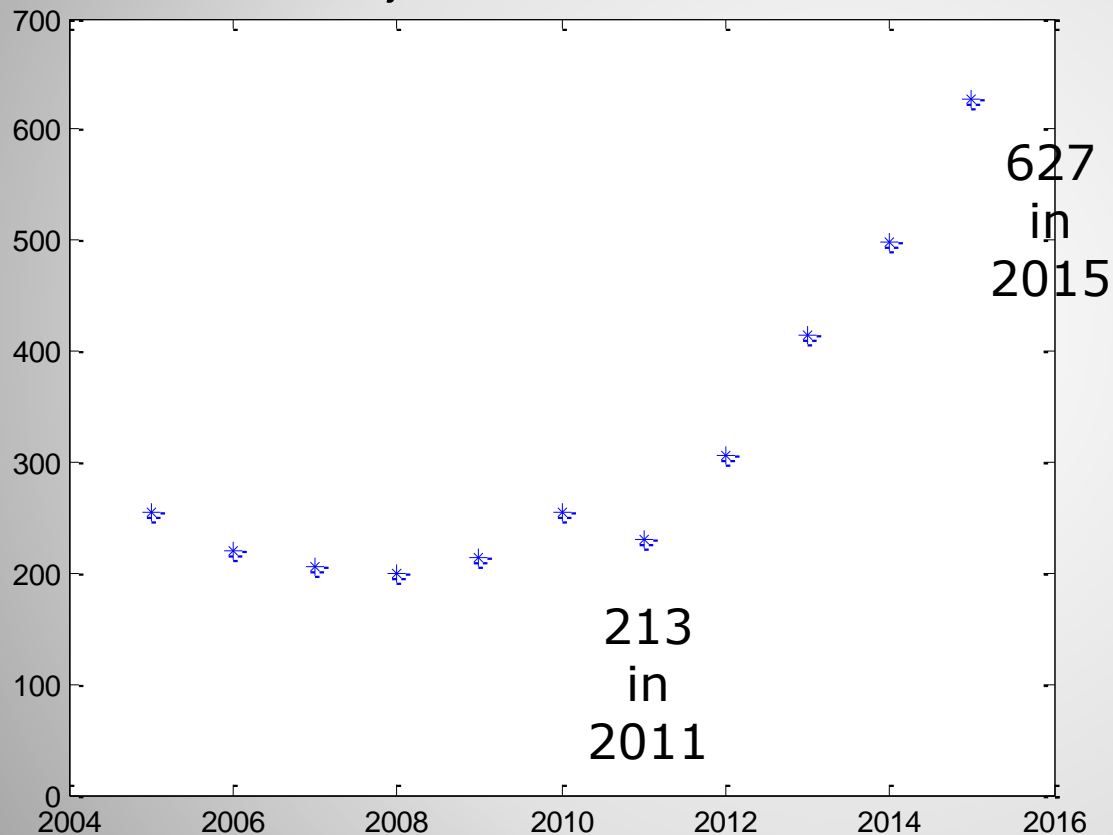


Need effective,
responsible TAs



Size of CS major tripled in 4 years

CS major students 2005-2015



Increased
recruitment
of undergrad
TAs



Increased
need to
provide
training



Want to improve learning experience and climate for CS undergrads

- Prior to 2014, undergraduate TA training was required only for one intro programming course. (Grad TA training was compulsory.)
- Concerns of implicit bias
- Elitism exhibited by some TAs



CS undergraduate TA/consultant training

- Focus on responsibilities and concerns common to all TAs:
 - **In-person interaction, e.g., office hour**
 - **Grading and written interaction online**
 - **Diversity and ethical considerations**
- Does not include classroom teaching as few undergraduate TAs have that responsibility



Highly interactive training (3 hours)

Skits!

- Unprepared or underprepared students (be a helper not gate-keeper)
- Crowded office hours and academic integrity
- Grading that respects students and their privacy
- Distressed students
- Advising students on non-course topics, e.g., choosing a major
- Keeping boundaries

Discussion based on written scenarios

- Strategies for office hour (and what to avoid)
- Effective and fair grading
- Written communication on online forum

Game and presentation

- Implicit bias

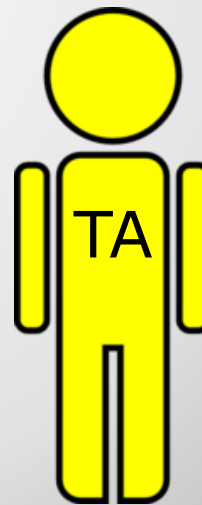


Why use skits or role-play?

- Pushes participants to move beyond simple rules to engage in analysis given a set of realistic circumstances
- Widely used in ethics training
- No simple right or wrong: must consider possible **actions** and their implications
- A safe environment to confront a dilemma for the first time



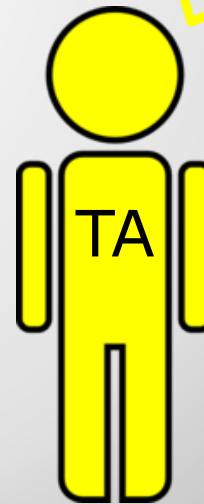
The setting:
*TA has just finished helping student
with a homework problem*



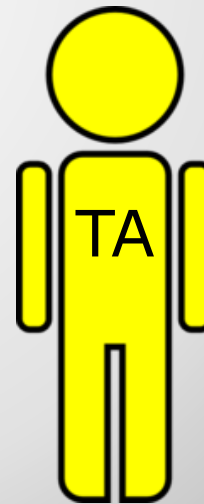
Thanks! Now I
understand why
my program kept
crashing.



You're welcome.
Remember that next time
you want to start testing
your program earlier; test
each function
independently. Do you
have any other questions?



[Hesitantly] No... Actually, I sort of have a question... I'm kinda thinking of majoring in CS, but I just don't want to be programming all the time, hacking at the computer all night long. I want to do other stuff, you know? Talk to people, hang out with friends. Do you think I belong in CS?

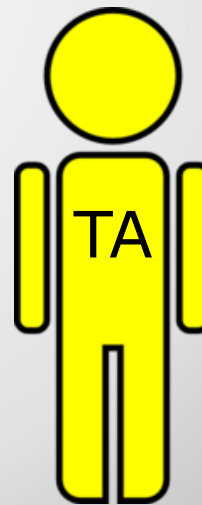


When the skit ends, analysis begins

- What's the immediate need?
 - Participants suggest how TA should respond and analyze options
- What are the broader issues?
 - Skit set us up for broader discussion of related issues
 - Most of the training time is spent on post-skit discussion
 - TAs participate readily (usually)



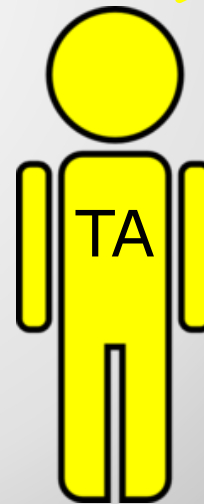
The setting:
*Student has just walked into TA's
office hour*



I don't know what
I need to do for
this assignment



OK. Let's see where
you are. Can you
show me what you
have so far? Are you
getting specific error
messages?

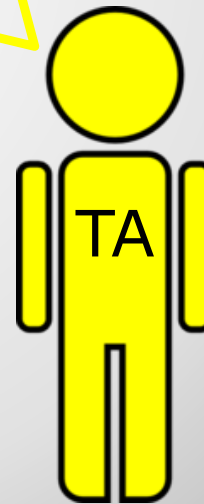


I don't have much yet. Can you show me what I need to do?



I wonder if he/she really has started yet.

Let's start from the specifications. What does this [*pointing to something*] mean?



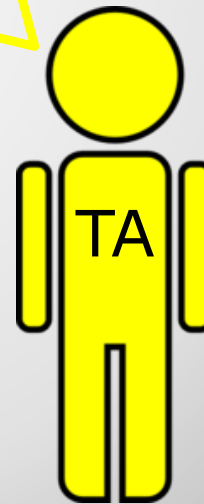
It's 3 hours to the deadline. Stop asking and just give me the answer!

I dunno...



I wonder if he/she really has started yet.

Let's start from the specifications. What does this [*pointing to something*] mean?



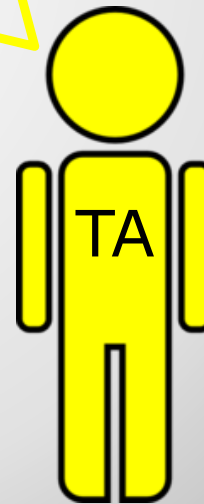
I've read the question
and notes over and over
and I still don't
understand. Ahhhhh!

I dunno...



I wonder if
he/she really
has started yet.

Let's start from the
specifications. What
does this [*pointing to
something*] mean?



Trainer—moderator—makes sure that important issues are vetted

- This is not an easy task
- Must insert missing ideas without “taking over”
- If a bad idea persists, intervene without shutting down the atmosphere of open discussion



Trial, optional training in Fall 2014, Compulsory training from Spring 2015

- High demand for training: 128 returning and new TAs choose to participate in first semester
- 149, 130, 103 in subsequent semesters



Basic feedback gathered

- “Training provided valuable insight and advice for how to run effective office/consulting hours”
84% rated 4 or 5 out of 5
- “Training provided valuable insight and advice for how to grade well and effectively”
76% rated 4 or 5 out of 5
- “Training informed and reminded me of my ethical responsibilities as a TA or consultant”
91% rated 4 or 5 out of 5



Representative comments from participants

- Skits and role playing was great
- [I liked the] implicit bias presentation
- Would like to hear more about what is and isn't acceptable
- Acting out skits very well described difficult situations
- I liked the situations as they were very probable
- The skits are particularly fun and memorable
- The part about implicit bias is also surprising and informative
- Advice from more experienced TAs was very helpful



Challenges

- The most productive discussion include the voice of experienced TAs—must invite experienced TAs to return
- So many things to cover, so little time
- Direct evaluation—impact on students—difficult to measure
- Evaluating individual undergraduate TAs also a challenge



Thanks to all my collaborators!

Linda
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David
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Eva
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Steve
Marschner



Michael
Clarkson



Anne
Bracy



Mike
George

