

Excellence through

**EDI**

Equity, Diversity, Inclusion

# Jr. QA Test Engineer Position

## Responsibilities

- Review and analyze web app's requirements
- Execute testing steps manually on web app
- Report and document defects using MS Word

## Who will the successful candidate be?

He will have...

- training in computer science (2 or 4 year degree)
- 15 years work experience  
(need not be related to computer science or testing)
- strong oral and written communication skill
- a keen interest in team building activities  
(Wednesdays 4pm-8pm)

Experience in construction or firefighting a bonus for team fit!

Is this you?

Is this you?

How is this unfair?

EDI is about  
removing unfairness  
from the process

# Why care about EDI?

- EDI is about..
  - Hiring the best person; not selecting for some irrelevant characteristic.
- EDI is about..
  - Not judging someone based on factors beyond their control
  - Ex: Only hiring MIT grads filters on ability to pay \$53,450 US / year tuition, 2019
- EDI is not at the expense of excellence: it's about.. and not being affected by bias.



Stephen Hawking



Amelia Earhart



Katherine Johnson

# Topics

- 1) What **gets in the way** of recognizing value of a person?
- 2) How do we **unintentionally marginalize people**?
- 3) How is **CS** doing with **gender in EDI**?
- 4) What can **each of us do**?

# Implicit Bias

# Implicit Bias

- **Evaluating Abilities**
  - We must evaluate a person base on their abilities,  
..
  - Don't judge competence by perception of another (physical) quality.

# Implicit Bias

- Entrepreneurial ventures pitched by men preferred over..
- Gendered names randomly assigned to applications for lab manager position at major institutions.  
(ex Alex vs Alexis)

## Male names were

- “rated significantly more ..
- “offered a.. and more career mentoring”



# Implicit Bias

- **Assertiveness**
  - Assertiveness in men seen as..
  - Assertiveness in women seen as..
- **Asking for a raise**
  - Women asking for higher pay seen as **less nice** and **more difficult to work with**; men not perceived negatively.
- Perceiving oneself as unbiased..



# Implicit Bias

- **Examples**

- SFU removing some flexibility in salaries to reduce gender differences
- Anecdote of bias in hiring committee's valuing of interdisciplinary research experience
- Blind auditions for orchestras; needed carpet!
- I catch myself speaking to male TAs differently than female TAs.

# Types of Bias

- **Halo Effect**
  - Forming a positive impression a person
  - ..
  - **Ex:** Judging ability to code based on clothing, drink choice, and Sci-fi knowledge
- **Gender / Racial Bias**
  - Judging a person based on their gender or race.
- **Affinity Bias / Similarity Bias**
  - Favour people with whom we are similar/connected.
  - **Ex:** Us hiring only SFU grads!
- **Prestige Bias**
  - Placing (too much) value on the judgment of
  - ..

# What Type of Bias is most likely?

- **Statement 1**

“I know Bert from my tennis club; he’s really nice to work with. We should hire him.”

- **Statement 2**

“All the applicants are very qualified. I think we should go with Bert because he has a masters degree from MIT.”

- **Statement 3**

“I was impressed how the candidate was comfortable talking in front of the whole team. I think she’ll be a great developer.

- **Statement 4**

“I don’t think we should hire Susan. She has a masters degree, so it’s likely her skills are more theoretical.”

# Bias Mitigation

- Recognize Bias in Criteria
  - ..
  - Ex: Black scholars are less likely to win awards, so don't use just awards to pick best
- Sufficient Time
  - The faster you go the more bias contributes;
  - ..

# Bias Mitigation (cont)

- **Inclusive decision making process**
  - Think about..  
vs looking for reasons to not
  - Biases give us reasons to exclude someone
- **Conscious of Biased Language**
  - Different language **used to describe women and men** doing the same job equally well.
  - **Ex:** Reference letters  
for women focus on social values:  
"tried" or "cared"  
for men focus on accomplishments:  
"excellent" or "lead"



How do we  
unintentionally marginalize people?

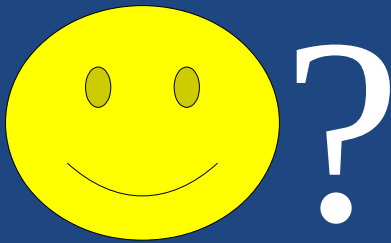
Micro Aggressions

# Micro Aggression

- Micro Aggression:..
- Examples
  - “Wow, you are good at programming for a woman!”
  - “I was pleasantly surprised your portfolio was written in full sentences.”
- It Adds Up
  - Single one not monumental; many each day over the years add up!
  - Often done below level of consciousness

# How should we react?

A coworker comes into the lunch room and tells you and four others a joke about gay men; everyone else laughs.



- a. Brush it off; they meant no harm.
- b. “Could you clarify what you mean by that?”
- c. “I know you meant no harm, but that statement is a little disrespectful.”
- d. “I used to think that, but I know I realize it is hurtful...”
- e. “That is a horrible thing to say! Please never say that again.”



# How should we react?

*“You’ll fail. Why don’t you take keyboarding instead?”*

My high school counselor, explaining why he wouldn’t let me take computer science even though I had an A+ in all the prerequisites.

- a. Brush it off; they meant no harm.
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# How should we react?

“So, are you in sales  
(for one of the vendors at  
the conference)?”

Asked to a female researcher  
at a robotics conference,  
who had just  
won best paper award.

... and at numerous other  
conferences and networking events.

**Creative solution:**

She now enters her first name  
in the registration system as  
“**Dr. Angelica**”

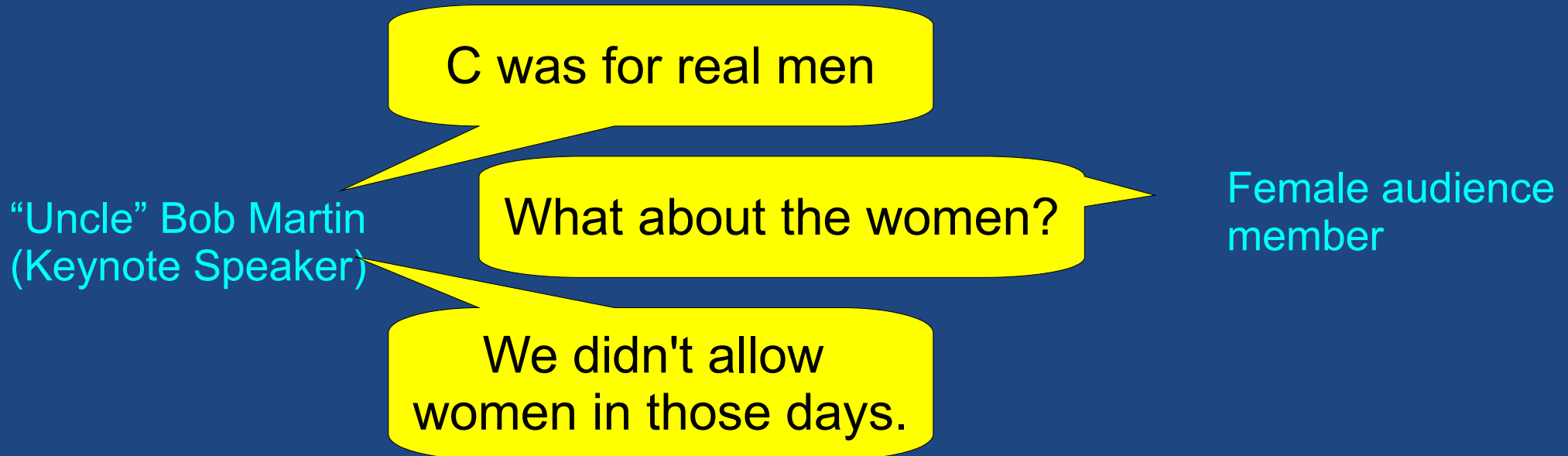
HELLO

my name is

Dr. Angelica Lim

# Actual Example

- At ACCU 2012 conference keynote address  
from his apology posted to GitHub: <https://gist.github.com/unclebob/2508746>



- **Comment Section Response**

"Dear Uncle Bob, you should not apologize. It is time to stop this non-existent anti sexism thing and start caring about real problems."

# On being thick skinned

- **Should we be thick skinned and not let it bother us?**
  - Do insults bother you?  
If it's **funny**, does it make a difference?
  - Do I have the right to **make someone feel bad so I can feel good?**  
Or, does someone else have a right to **control me just because they are offended?**
- **I feel:**
  - It is not the responsibility of the target of an insult to accept it without complaint.
  - **I cannot decide for others** what they should tolerate and to what they should object

# Micro Aggression Response

- **When you notice a micro aggression**
  - Help person feel less alone
  - **Check in** with person to build social connection
- **When you say a micro aggression**
  - Don't be offended when called out; hear them out
  - Which is better?

“I didn't mean to offend you”


OR



“I'm sorry; thank you for letting me know. I didn't realize what I was saying would be offensive.”

**“ Oh, you're not here to hook up with guys. ”**

In my computer programming class. I was wearing a Legend of Zelda shirt this particular day, which somehow convinced him I was “really” there to learn. Made me feel confused, annoyed, like I'd never be taken seriously.

 gender

 8 years ago

 57

 2

share 

[www.microaggressions.com](http://www.microaggressions.com)  
<https://tumblr.co/ZKxVWy7d-vaa>

# Underrepresentation of Women in Computer Science

# Gender Diversity

- Computing Science has a diversity problem
  - <20% CS Majors are Female (US)
  - SFU CS 2021
    - 17% female UGrad
    - 33% female Grad
  - Stack overflow 2020 survey: 88% respondents male





# “Leaky Pipeline”



Don't blame  
the water



# Culture Problem

- **CS stereotype:** hackers coding all night
- 1960's Vocational interest scale for programmers:
  - Identified a..
  - Created self-fulfilling prophecy
- Companies are working to get beyond this:





(a)

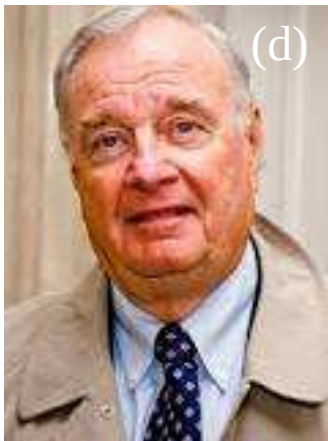


(b)



(c)

Which one of these people is *not* a programmer?



(d)



(e)



(f)



(g)

# Riot Games



- Riot Games makes League of Legends
- Reported to have gender bias
  - “Across the board, you’d have side-by-side similar backgrounds, but the leadership team would constantly ixnay any female candidate for leadership.”
  - Some female employees felt there was a very strong gamer-culture / “bro-culture”.
  - Company strongly contests these characterizations: “We have a zero tolerance policy on discrimination, harassment, retaliation, bullying, and general toxicity.”



# “Google’s Ideological Echo Chamber”

- **James Damore (Google software engineer)**
  - Wrote memo which partly attributed under-representation of women to biological differences
- Part of one of his sections:

## Personality differences

Women, on average, have more:

- Openness directed towards feelings and aesthetics rather than ideas. Women generally also have a stronger interest in **people rather than things**, relative to men (also interpreted as **empathizing vs. systemizing**).
  - These two differences in part explain why women relatively prefer jobs in social or artistic areas. More men may like coding because it requires systemizing and even within SWEs, comparatively more women work on front end, which deals with both people and aesthetics.

# “Google’s Ideological Echo Chamber”

- **Damore objected to Google:**
  - attributing under-representation of women **to only biases**
  - **discriminatory practices** such as training programs only for certain genders or race.
  - **hiring priority** for “diversity” candidates
- **Memo criticized for:**
  - **over attributing biological differences to explain under-representation of women in software engineering**
  - categorizing all women in one way
  - inaccurate use of study results (debated)

# “Google’s Ideological Echo Chamber”

- Damore was fired for “perpetuating gender stereotypes”
  - Author filed a complaint with the US National Labour Relations Board on the grounds that his document was protected by free speech.
  - Board found firing legal: “statements regarding biological differences between the sexes were so harmful, discriminatory, and disruptive as to be unprotected [by free speech...]”
- Damore’s felt those with ‘progressive’ views were trying to silence him without having a real debate

What can we do?

# My observations from projects

- **Examples of behaviour from my courses:**
  - Team members using **offensive language** (profanity)
  - Using **sexual test data** in their application
  - **Belittling** or overriding a female teammates opinions
  - **Abrasive/argumentative** approach to discussing team decisions
  - Expecting a female teammate to **take notes**
- **This is not acceptable in a university or work place**
  - It can gets people fired
  - It can makes people quit



# Recent Improvements

- Tech organizations have been addressing some racially insensitive terms
  - 2020: Linux kernel replacing terms
    - blacklist / whitelist --> denylist / allowlist, ...
    - master / slave --> primary / secondary, ...
  - 2020: GitHub (and others) moving to rename branch
    - master --> main
- Are these meaningful steps to address a critical issue?



# What you can do!

- When you notice offensive behaviour:
  - ..  
People who are offensive can think everyone else agrees with them but are too chicken to say what they really think.
  - Raise the issue to encourage retrospection..
  - If it was a joke, ‘turn the tables’ with a comeback:
    - “Better people than you have been fired for less offensive jokes”
    - “If that was supposed to be a joke, shouldn’t it been funny and not just offensive?”

# Call to Action

- ..
  - Ex: developer promoted to leaders without training
- **Formalize hiring and promotion criteria**
  - Remove "gut feeling" to reduce bias.
- **Don't rely on self-nomination or self-evaluation**
  - Men more likely to over-rate themselves
- **Pay attention to biases**
  - Notice your own, and those of others around you
  - Call out your friends, team mates, and instructors!

# Summary

- **Implicit bias** is **judging the wrong thing**.
  - **We are not accommodating to reduce expectations:** it's about addressing barriers that disadvantage some people
  - We have biases; **recognize your own**.
- **Microaggressions** degrade a marginalized group
- Companies working on fostering **inclusive environment**
- **EDI & Gender diversity** will only get better with all our conscious attention