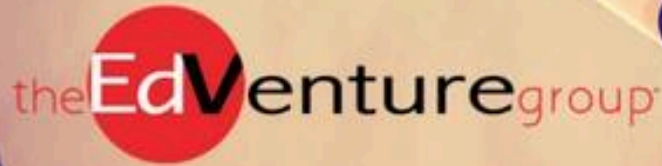




WHAT IS SHE DOING HERE?

Shattering the Status Quo on Girls in STEM

WHERE INNOVATION DRIVES EDUCATION



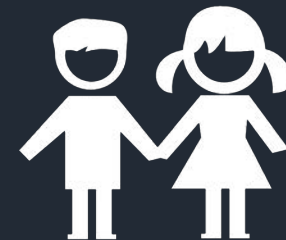
OUR SERVICES:



Curriculum
Design



Professional
Development



Youth
Programming

AMBER RAVENS CROFT

Manager of Innovation

Manage a variety of programming, including:

- Multi-state entrepreneurship initiatives
- Student leadership workshops
- Technology innovation initiatives

**I CAN'T CODE.
I CAN CREATE.**



**Let's break
the...**

ICE



**Let's talk
about...**



WV

QUICK LOOK



**< 20% of adults
25+ have a
Bachelor's degree.**



**Per capita income in
2016 was only
\$24,002**



**By 2040, 1 in 4 West
Virginians will be
over 65 years old.**

**Let's talk
about...**



QUICK LOOK

In 1984, 37% of all computer science graduates were woman.



Today, only 18% of computer science graduates are women.

IN WEST VIRGINIA



**There were 158
graduates of CS in
2015.**

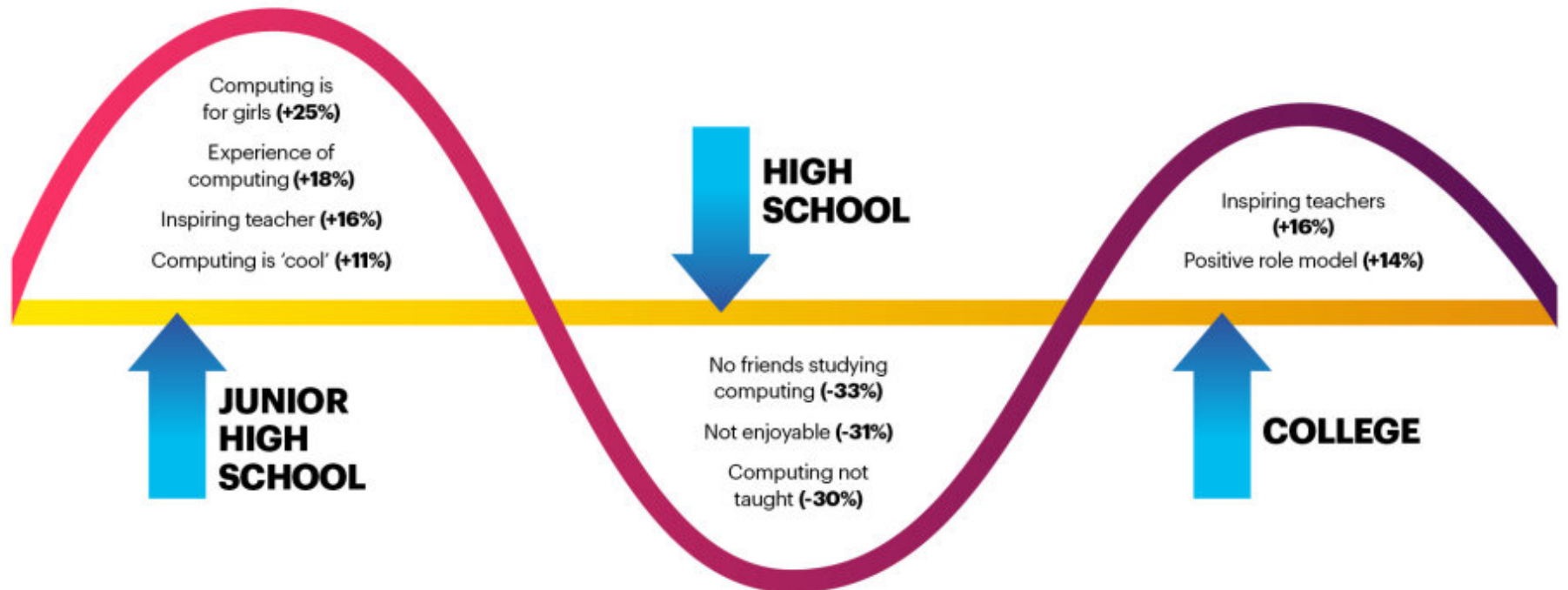


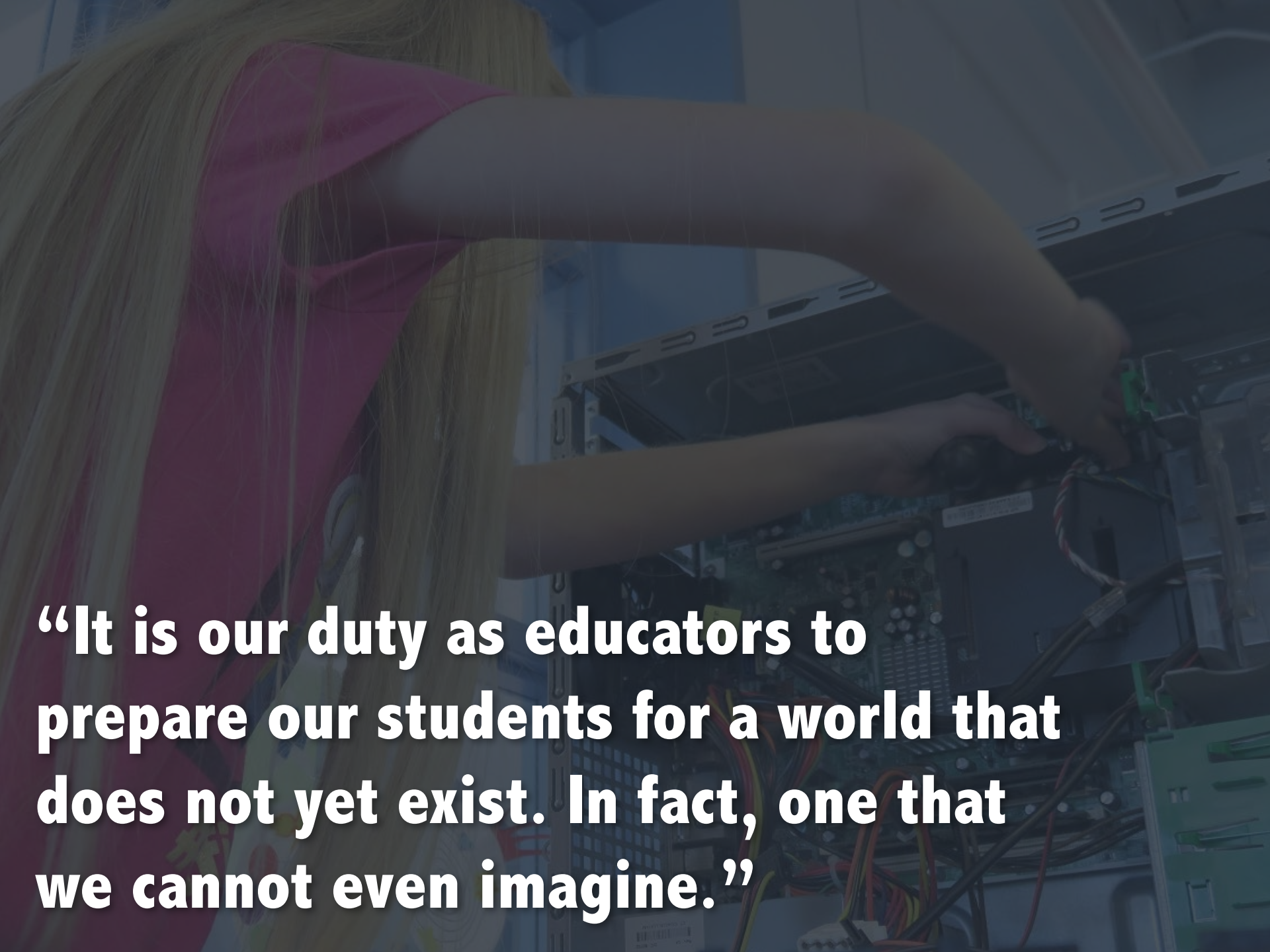
**Only 11% were
women.**



**To fill 1,087 open
computing jobs
(3.6x demand)**

WHY THE GAP?





“It is our duty as educators to prepare our students for a world that does not yet exist. In fact, one that we cannot even imagine.”



GAMER GIRLS

WHY

Why would this name be a problem?

cute

anime

deviantart

tombay

xbox one

headphone

video game

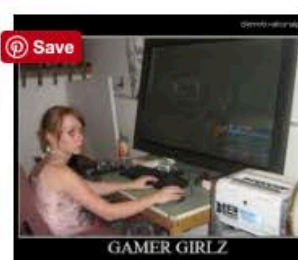
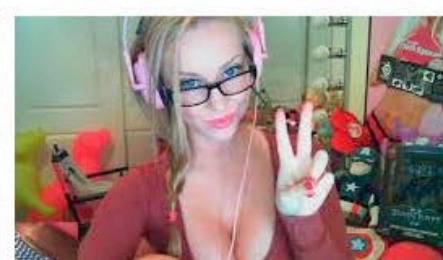
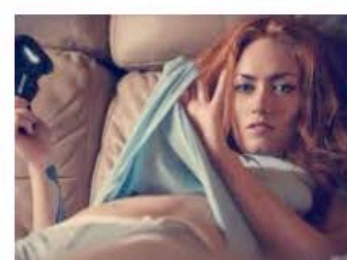
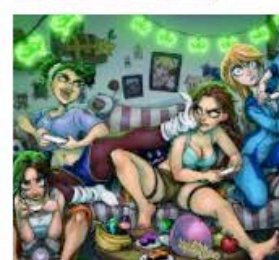
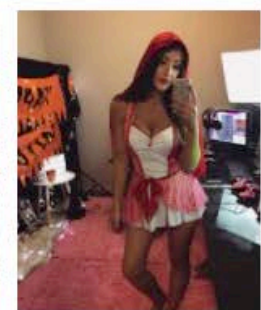
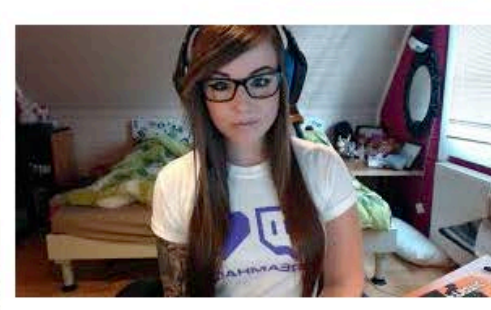
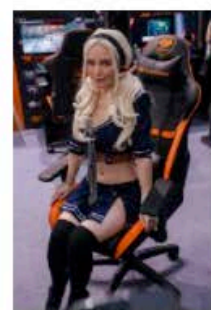
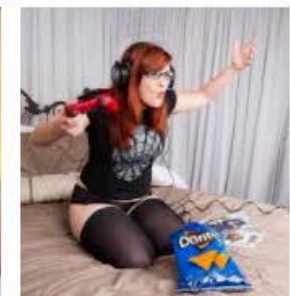
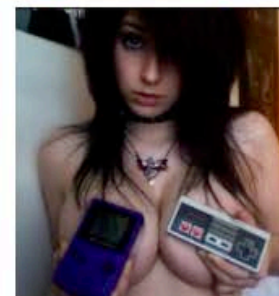
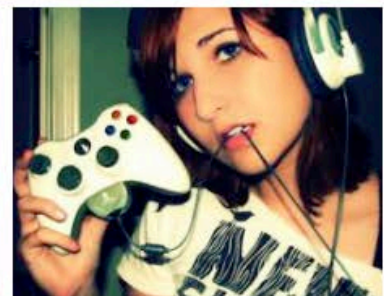
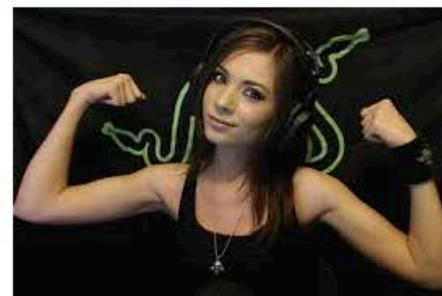
computer

youtube

instagram

pinterest

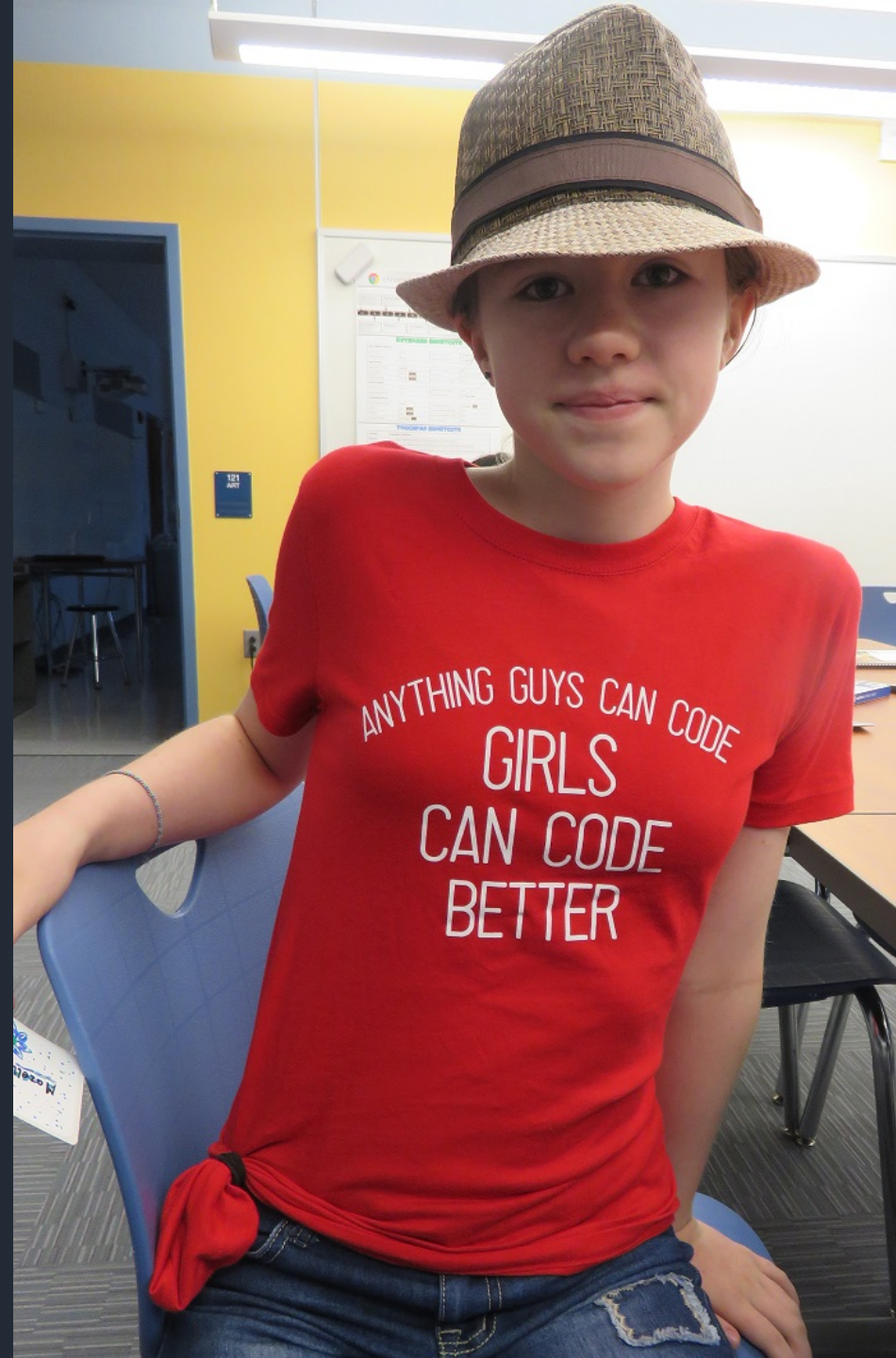
facebook



THIS IS WHY.

CS EDVENTURE

An immersive summer learning opportunity for female students in Grades 3-8 to explore opportunities available for a future in computer science.



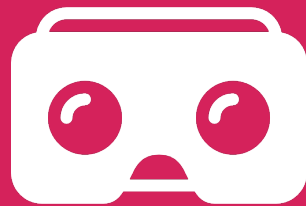
Google

OUR PROGRAM



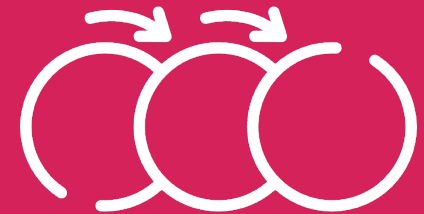
Coding Basics:

Vocabulary
Algorithmic Thinking
Pattern Recognition
Block-based coding



Emerging Tech:

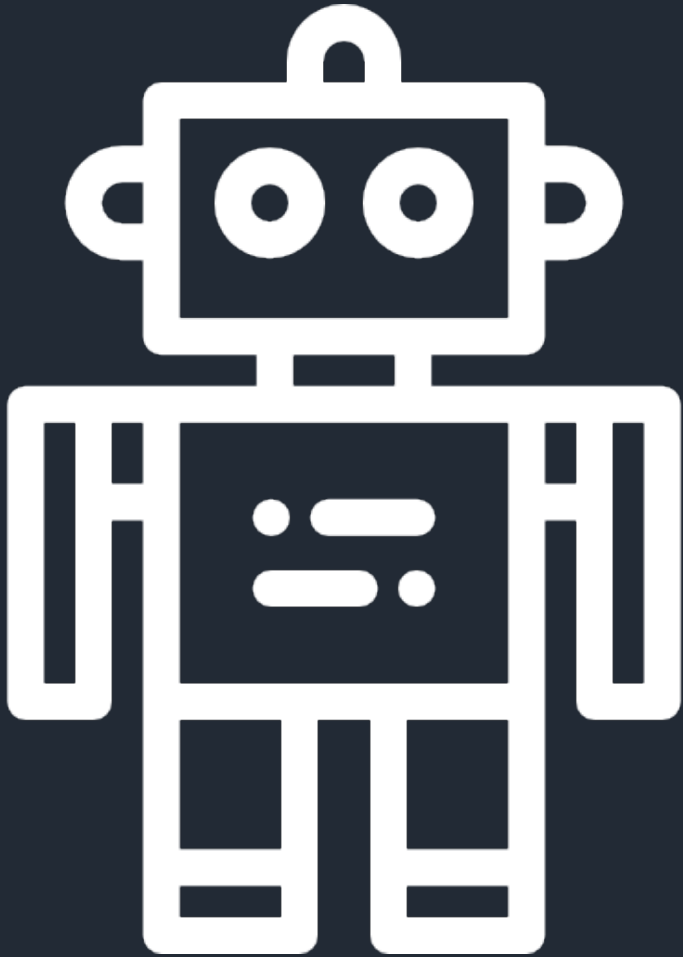
Augmented Reality
Virtual Reality
Mixed Reality
MakerSpaces



Design Thinking:

Entrepreneurship
Game Design
Ideation
Project Development

HUMAN ROBOT



YOUR CODE:

Step [forward, backward] 1 time

Rotate 90 degrees clockwise

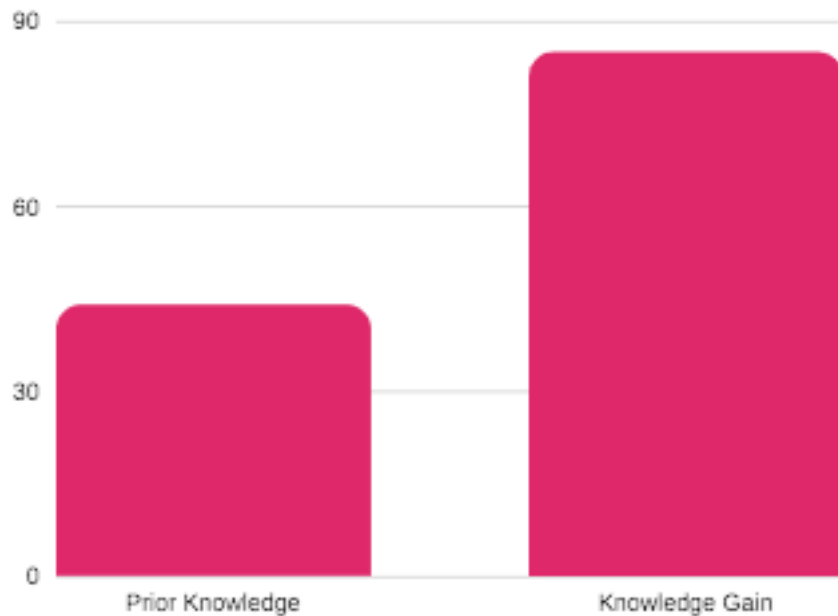
Lift arm

Drop paper

You have 10 minutes.

IMPACT

Based on pre- and post-testing, students saw significant increases in knowledge of coding basics and uses of emerging technologies.





BRIDGING THE GAP

Unconscious Bias
Stereotype Threat
Imposter Syndrome



A group of people, including a child, are gathered around a laptop, looking at the screen. The image is dimmed and serves as a background for the text.

THIS IS BEFORE.

“Women are not as good at math and science.”

**“Women are supposed to be stay-at-home
moms.”**

Why is CS important?

Computer Science is Important Because You need coding to create games and software.

It helps women feel stronger about them self. ^{and} we can kick the men's butts off.

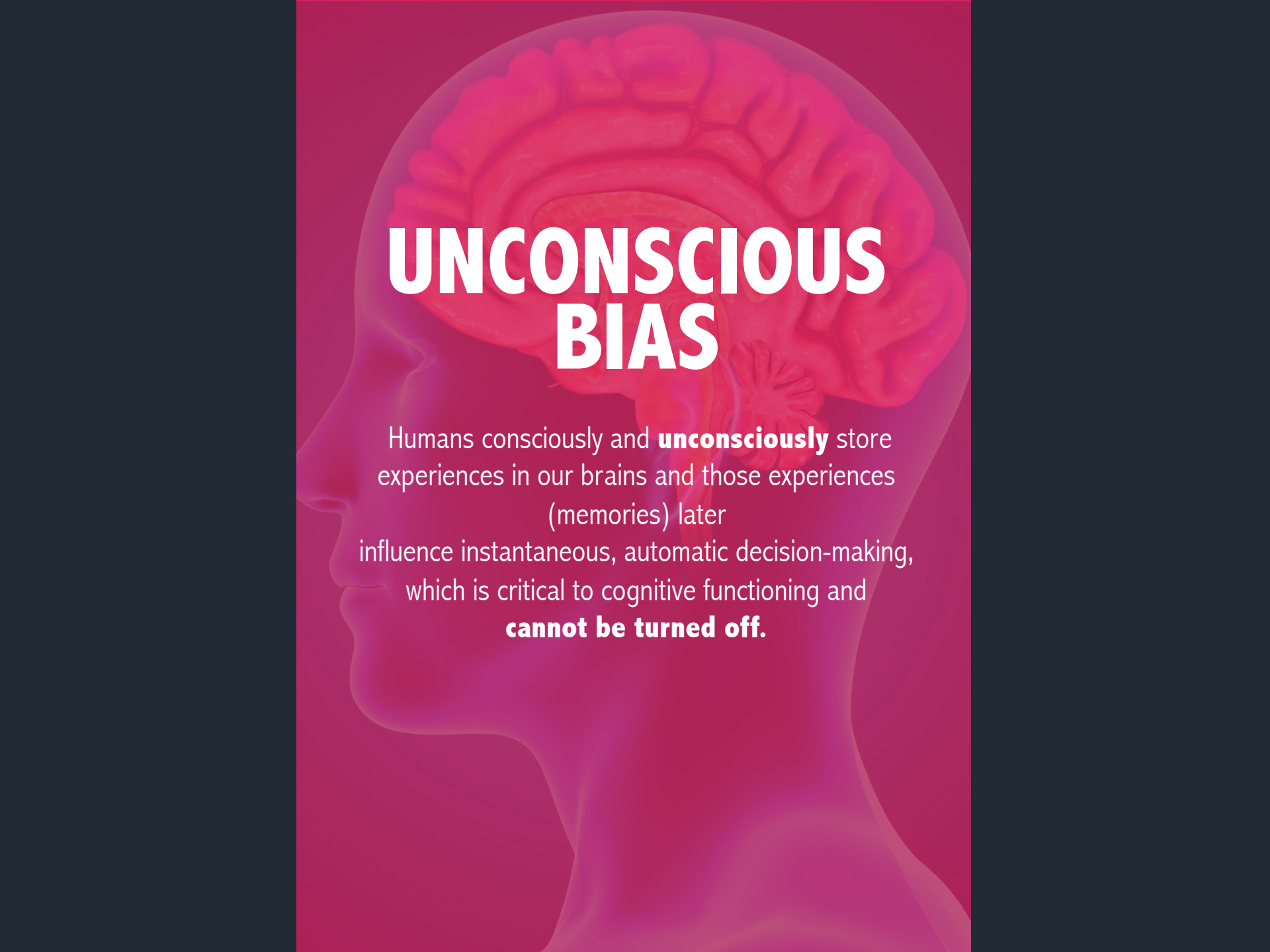
Because then nothing new can happen on the internet.



CS is important because it's advancing every day and we need to move along with it so that have a some place.

Computer science is important because alot of people use it and you will ~~be~~ be stuck behind if you don't know a also helps us create.

THIS IS WHY.



UNCONSCIOUS BIAS

Humans consciously and **unconsciously** store experiences in our brains and those experiences (memories) later influence instantaneous, automatic decision-making, which is critical to cognitive functioning and **cannot be turned off.**



INTERVENTION

- Nurture **motivation** to reduce UB by building awareness existing biases
- Build **awareness** of the psychological basis of UB
- Promote evaluation by **individuation**
- Increase **contact between social groups**
- Promoting **positive emotions** when interacting with “outgroups”
- Increase **empathy** and perspective-taking
- Build a **sense of partnership** that reduces outgroup status



IMPACT

Exposure to UB can trigger self-fulfilling prophecies by changing stereotyped groups' behaviors to conform to the stereotype, **even if the stereotype was initially untrue.**

NEXT CONCEPT

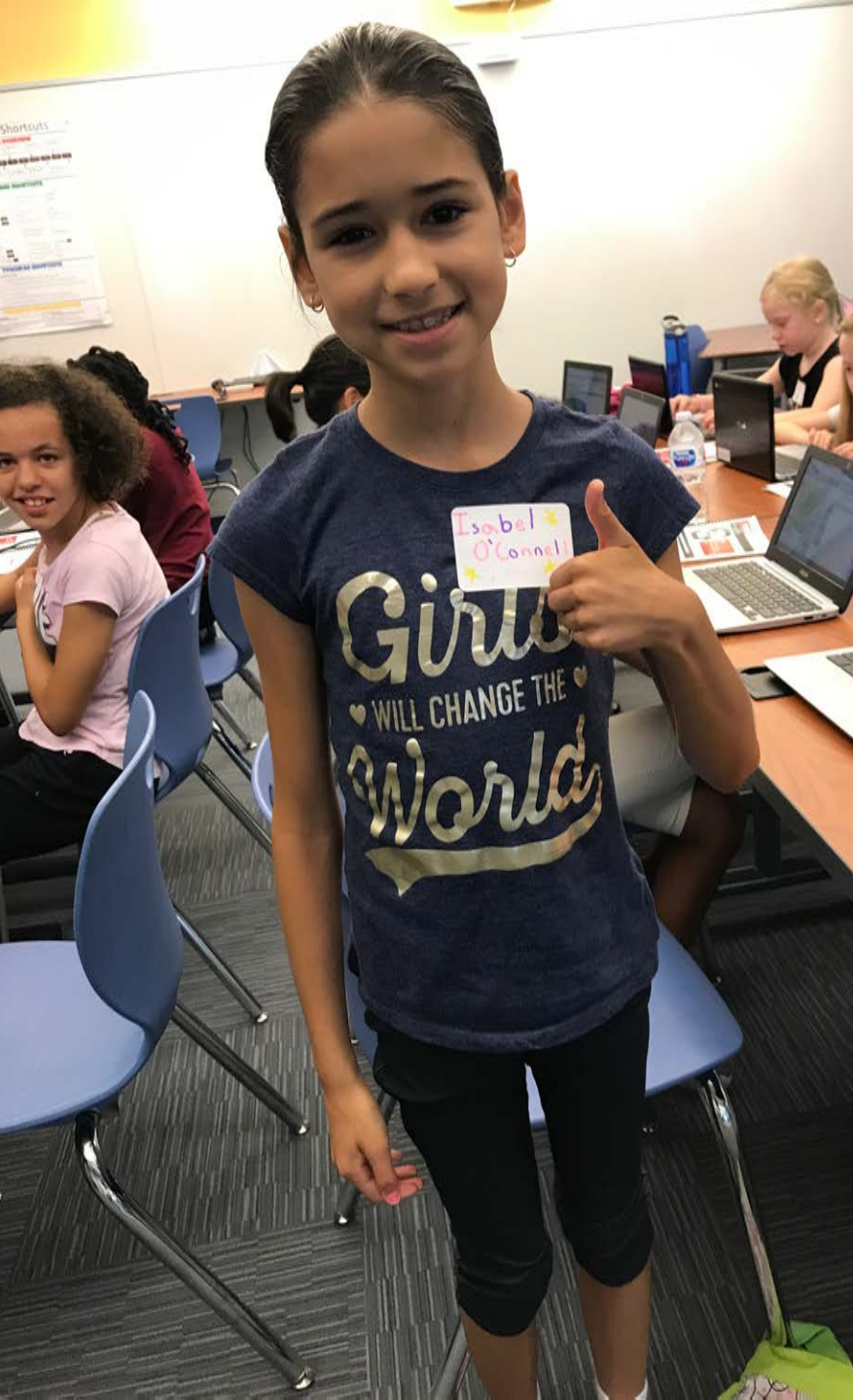




STEREOTYPE THREAT

“...being at risk of confirming, as a self-characteristic, a negative stereotype about one’s social group.”

Steele & Aronson, 1995



SELF IDENTIFY

If students are asked to **identify their demographic information** prior to taking a test, rather than after — it could affect performance on the test, regardless of actual knowledge.

INTERVENTION

- Revolutionize how girls think.
 - **Self Affirmation**
- Provide positive role models.
- Emphasize effort and motivation over talent.

KODE WITH
KLÉSSY



A group of people, including a woman in a blue shirt, are gathered around a laptop, looking at the screen. The image is dimly lit and serves as a background for the title.

A CASE STUDY

Study 1:

Women performed worse on a math test when described as diagnostic of math intelligence, as opposed to an environment with no diagnostic.

Study 2:

Women performed better on a spatial rotation test when told women were stereotyped as inferior on such tasks. The stereotype had no affect on men's performance.



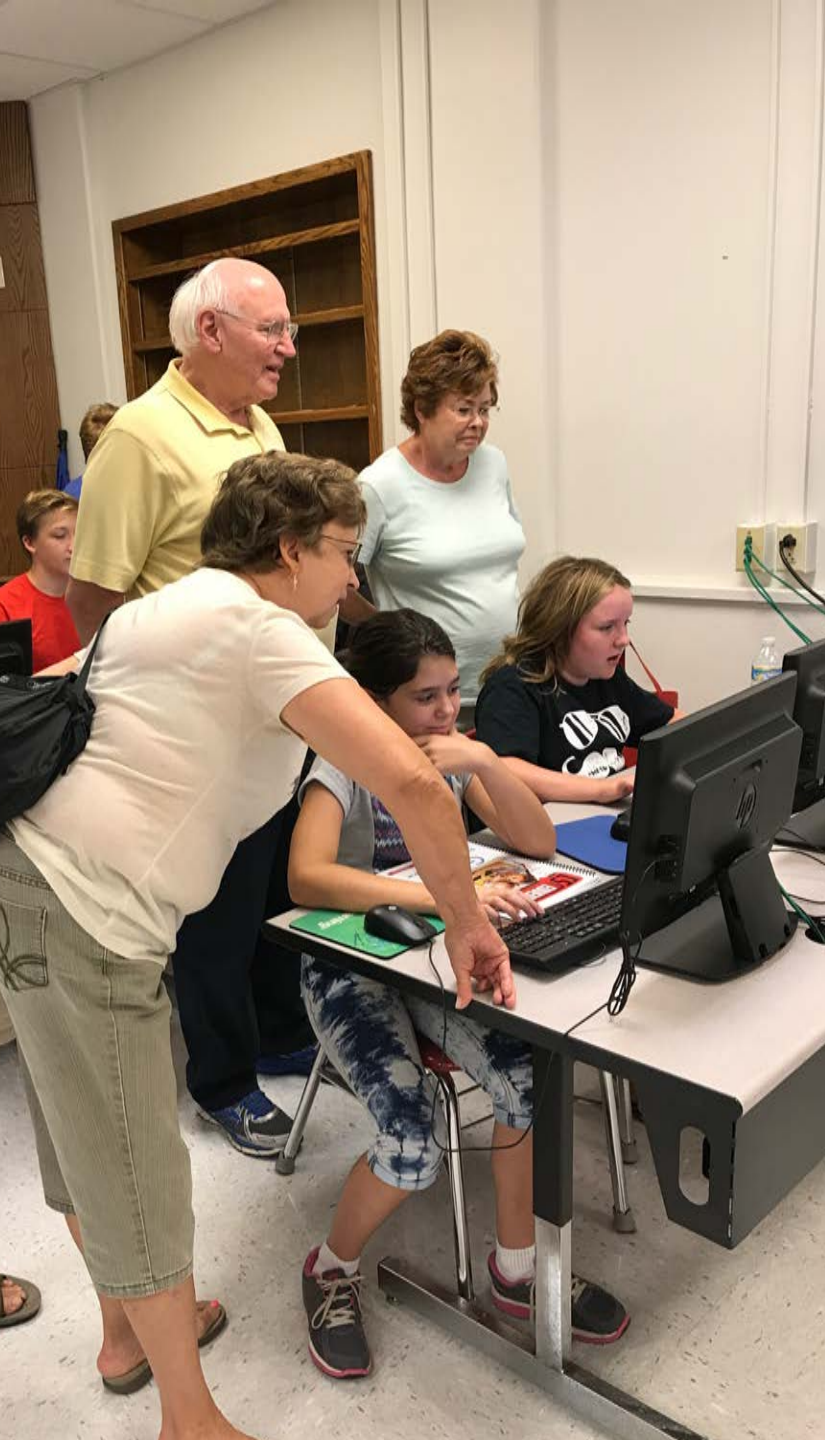
IMPOSTER SYNDROME

""...a concept describing high achieving individuals who are marked by an inability to internalize their accomplishments and a persistent fear of being exposed as a fraud."

INTERVENTION

- Understand external factors to success.
 - Luck, timing, connections, personality
- Own your accomplishments.
- Visualize a body double.
- Say “Thank You” & zip it.





LET'S OVERCOME

- Students learned about the **barriers to STEM** and positive role models in computer science.
- Developed their own **mantras** related to CS.
- **Showcased their work** to parents and guardians on the last day.
- Created a “Women in Tech” series.



THIS IS NOW.



THANK YOU

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301-268-1623

@EdVGroup



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