



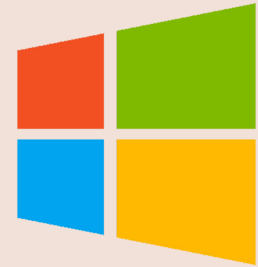
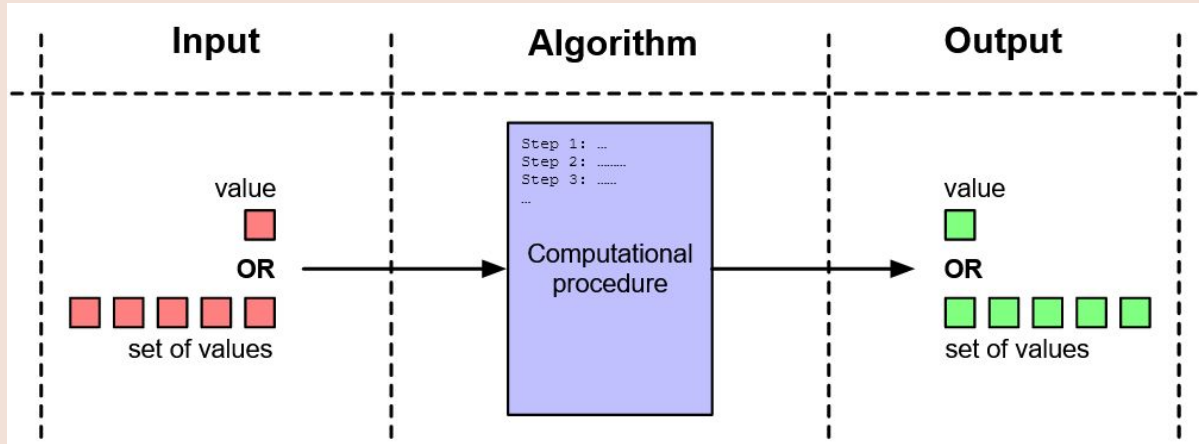
Less Code, More Community: Justice-Centered Computing Education in K-12

Anne Drew Hu

(they/them)

PhD Candidate, College of Education

Algorithms



Changing the world

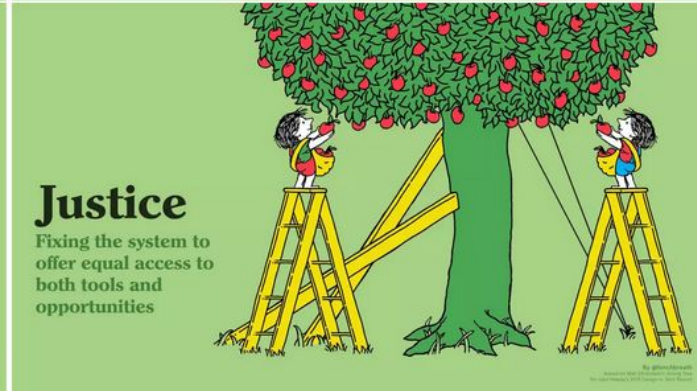
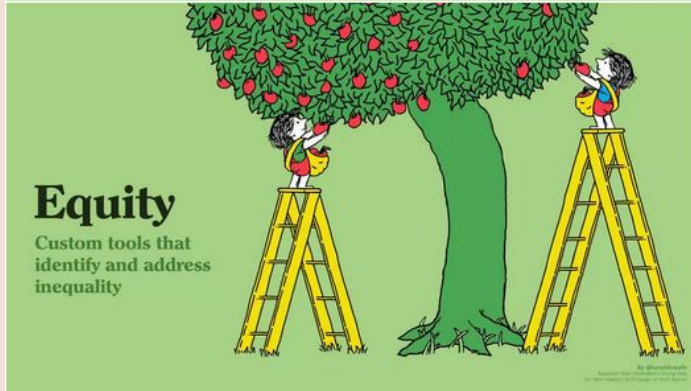
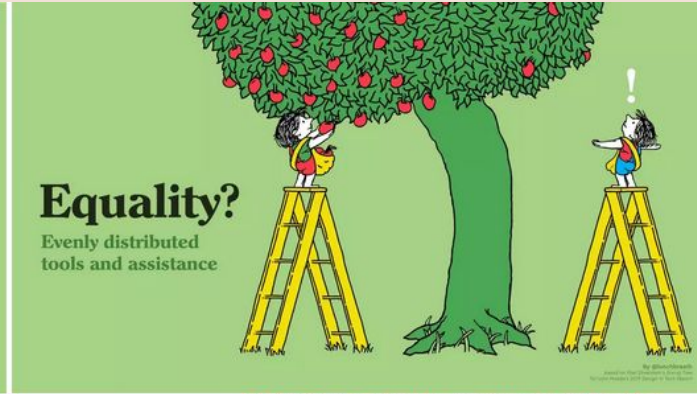
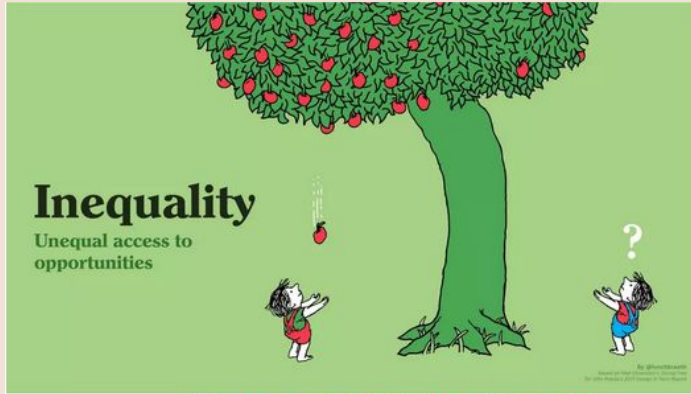
For better...



...and for worse



Justice



Algorithmic injustice

MICHIGAN

Michigan residents falsely accused of jobless fraud can sue, Supreme Court says



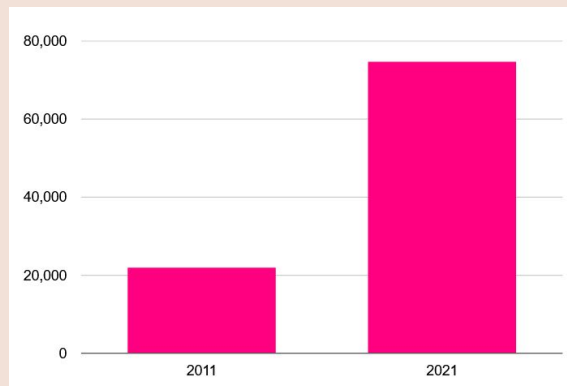
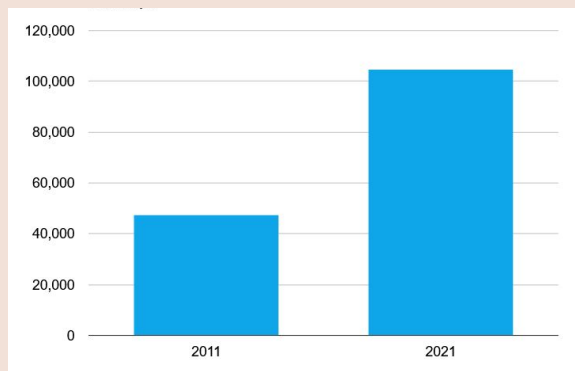
Paul Egan

Detroit Free Press

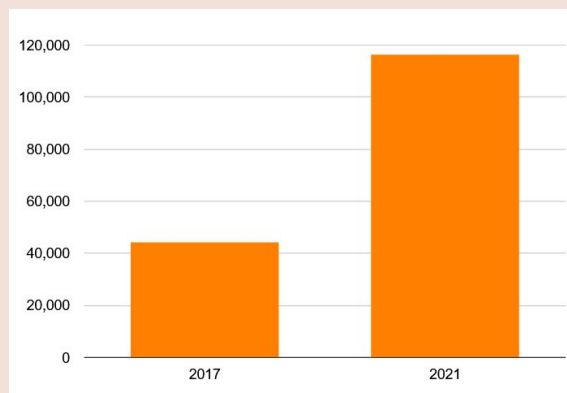
Published 1:15 p.m. ET April 5, 2019 | Updated 4:23 p.m. ET April 5, 2019

Growth of CS education

CS bachelor's degrees



AP CSA Exam



AP CS Principles Exam

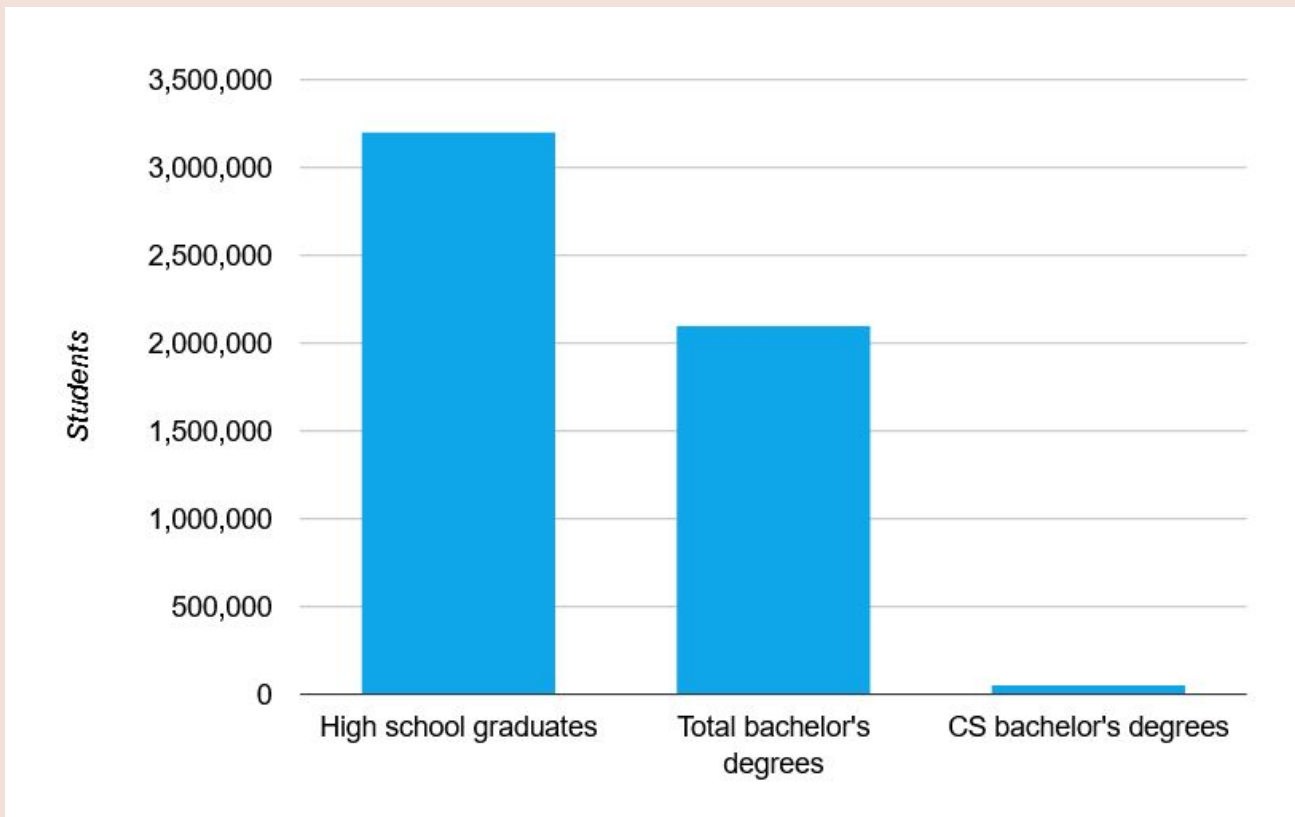
Sources: [NCES](#), [College Board](#),
[Bureau of Labor Statistics](#)

Less code, more community in K-12 CS

Three reasons why:

- Making **informed decisions** about tech
- **Organizing as a community** to regulate tech
- Creating more **inclusive and interdisciplinary** classrooms

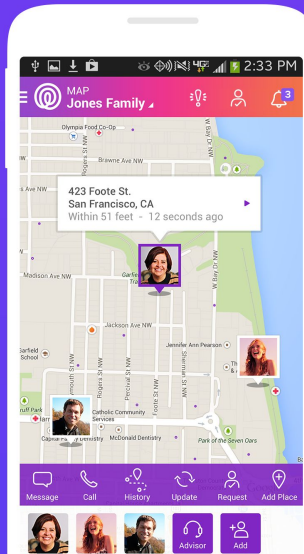
CS class isn't for CS majors



Sources for
2020-21:
[NCES, Data](#)
[USA](#)

Informed decision-making

Stay connected to
those who matter most



Life360
The new family circle

Privacy

Life360 Sued for Selling Location Data

A proposed class-action lawsuit cites Markup reporting and claims the family-tracking app did not get user consent to sell location data

By [Jon Keegan](#)

June 1, 2023 13:00 ET

Activity: What data is collected about you?

Your activity across Facebook



Saved items and collections

A list of the posts you've saved, and your activity within collections

You have no data in this section



Voting

Location and preferences in Town Hall and the Voting Information Center

Voting location

Voting reminders



Messages

Messages you've exchanged with other people on Messenger

Autofill information

Secret conversations

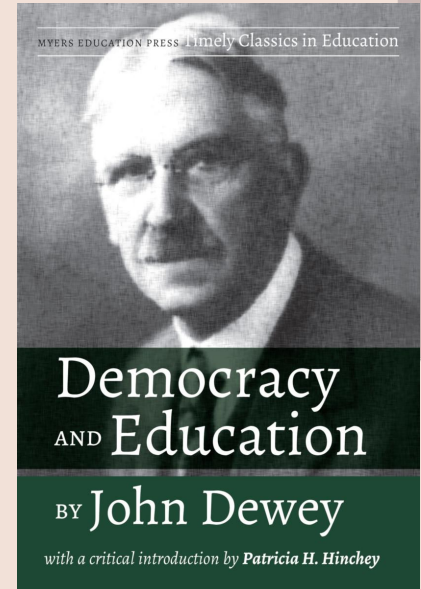
Your messages

Schools are the foundation of democracy

Schools prepare students for their civic duty

- Voting
- Community organizing
- Exercising freedom of speech

Students should practice democracy with CS content, too



Activity: Debate ChatGPT in schools

Schools should involve students in the debate

Benefits: enhanced writing

Drawbacks: misinformation, overreliance

Take the results to the school board



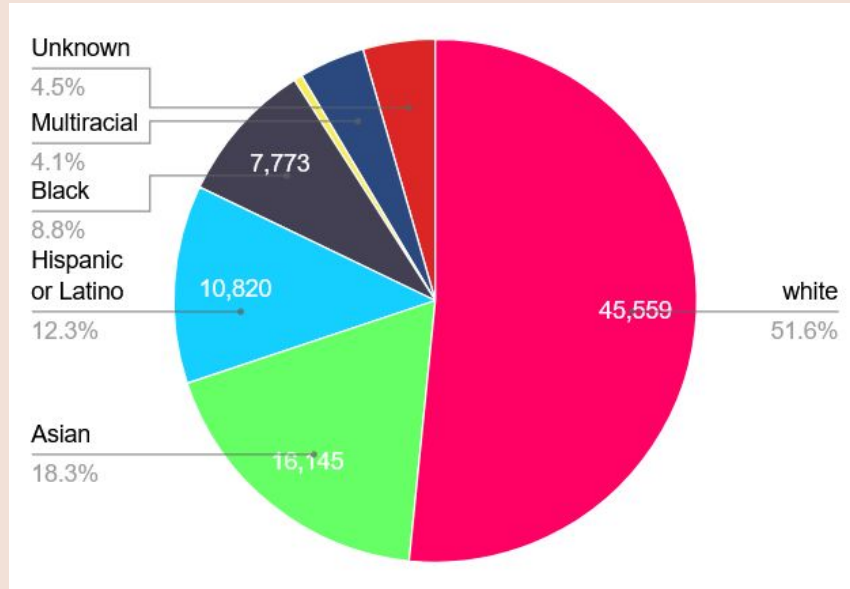
Misplaced priorities

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999) ElementFrc arg1 = parseInt(args/2); res1 = arg2.toString(); ("dumdiv"); if(ssss ==
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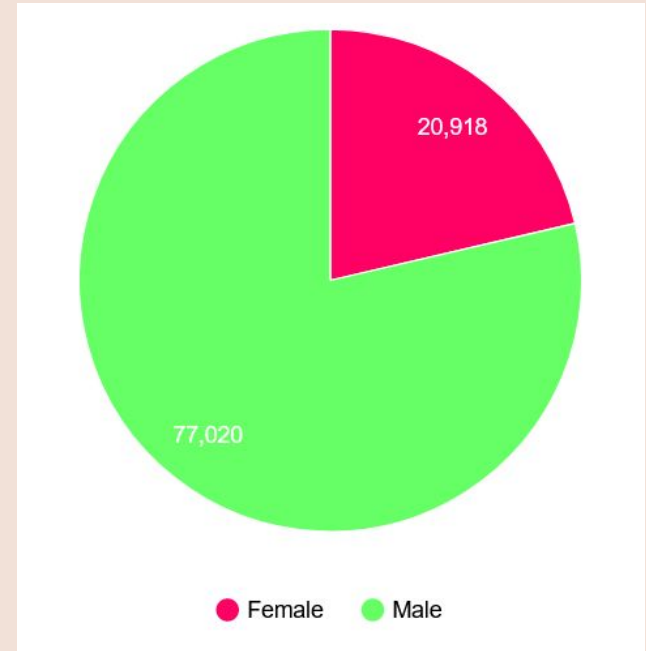


Lack of diversity in CS

CS bachelor's degrees by race (2020)

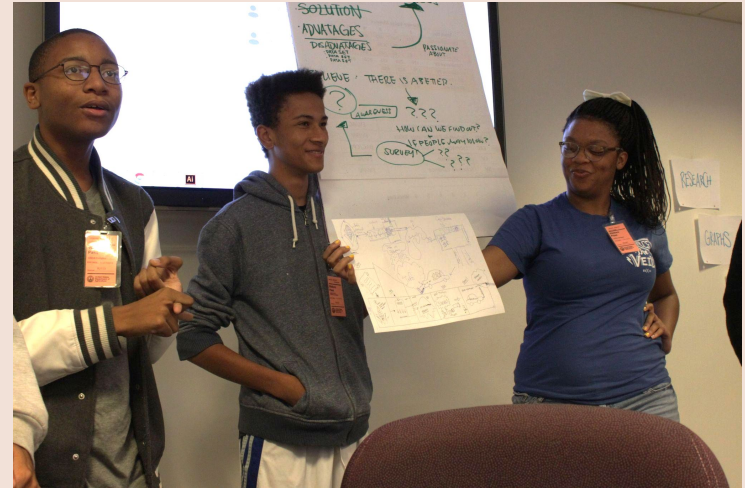


CS bachelor's degrees by sex (2020)



Source: NCSES

Be inclusive of many ways of thinking



Centering women and scholars of color

Google Researcher Says She Was Fired Over Paper Highlighting Bias in A.I.

Timnit Gebru, one of the few Black women in her field, had voiced exasperation over the company's response to efforts to increase minority hiring.



ARTIFICIAL INTELLIGENCE | MAR. 1, 2023

You Are Not a Parrot
And a chatbot is not a human. And a linguist named Emily M. Bender is very worried what will happen when we forget this.

By Elizabeth Weil, a features writer for New York Magazine. ✓

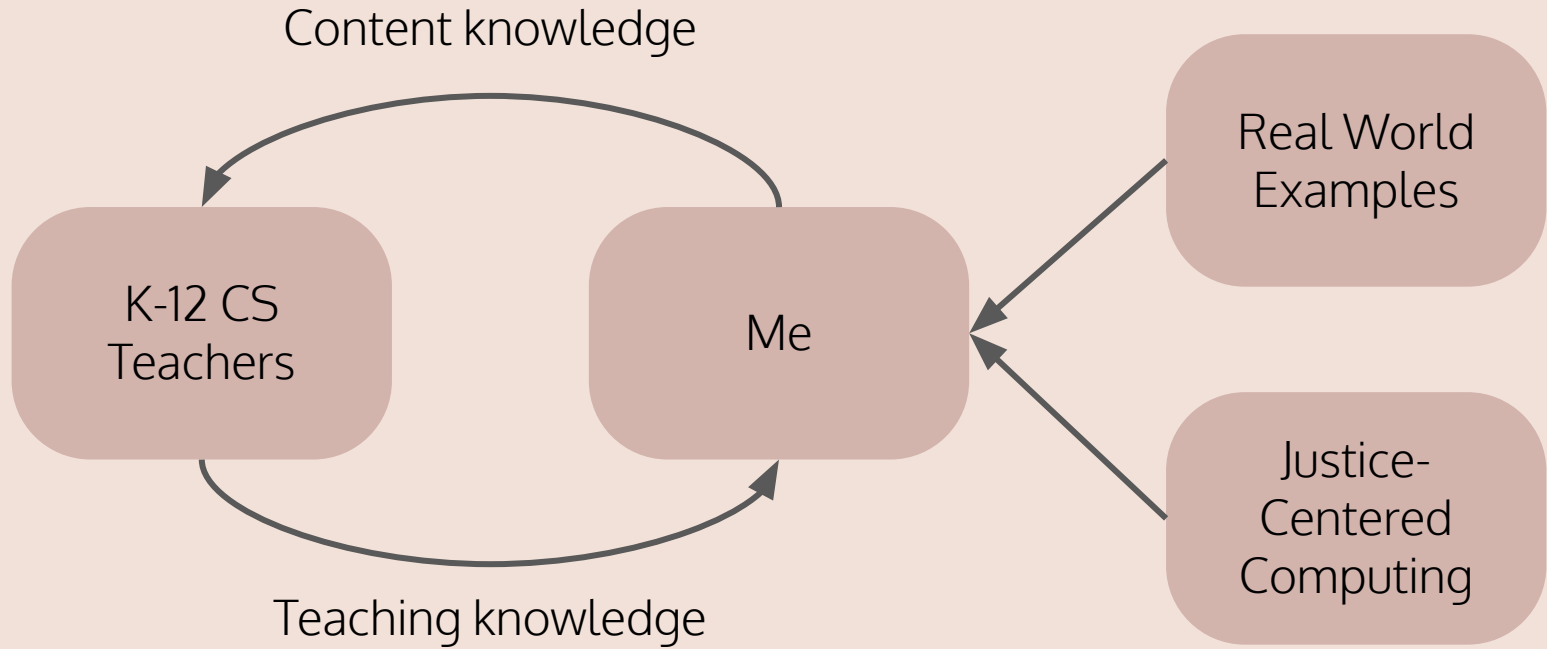


Justice-centered computing education

- Connect students' *communities* to computing.
- Be *critical*, as in critical race theory, to analyze how algorithms uphold systems of oppression.
- Prepare *citizens* to organize for change and democratic action.

(Yadav et al., 2022)

Where I come in



Justice-centered computing education

- Well-informed users of technology
- Stronger democracy
- More inclusive classrooms

Less code, more community!

References & Further Reading

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Icons from [Storyset](#) :)