

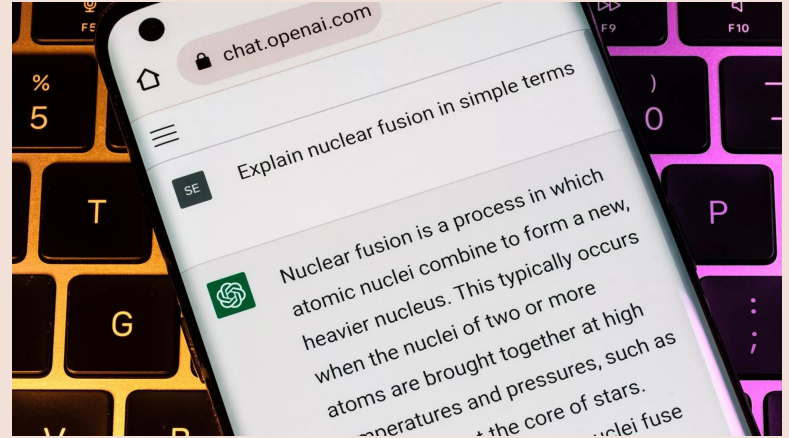
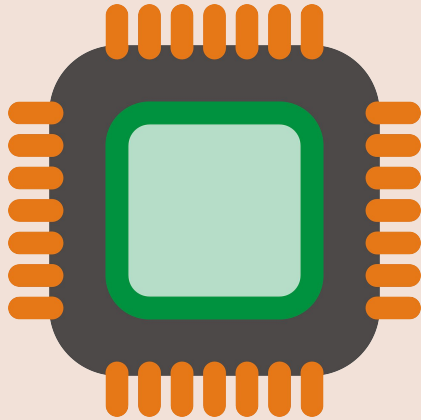
Integrating Critical Analysis of Society and Technology into K-12 Computing Through Teacher Co-Design

Anne Drew Hu (they/them)

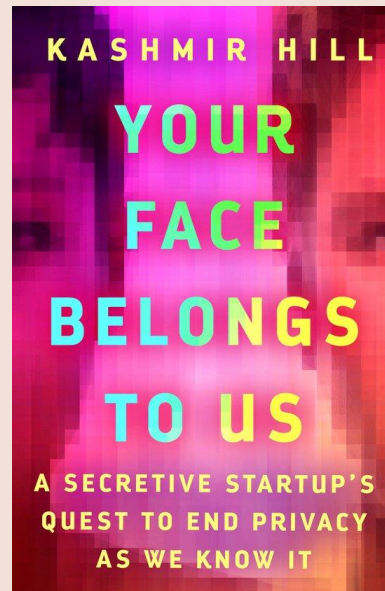
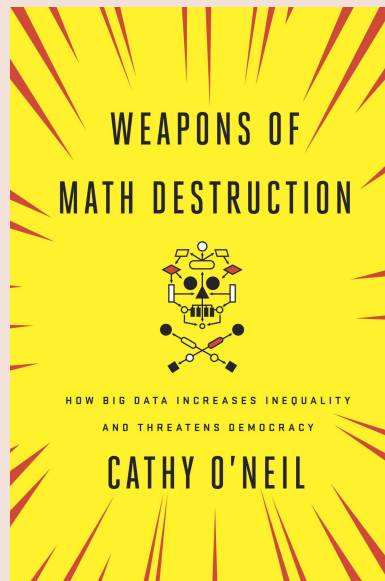
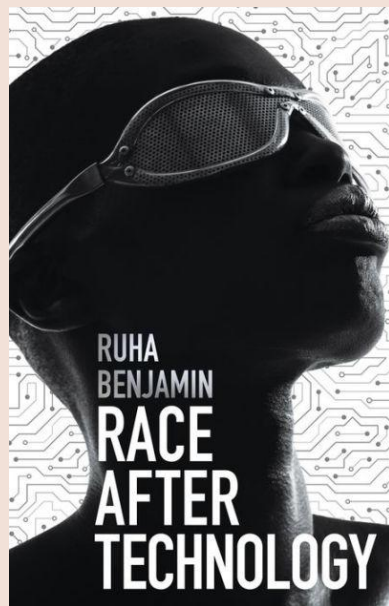
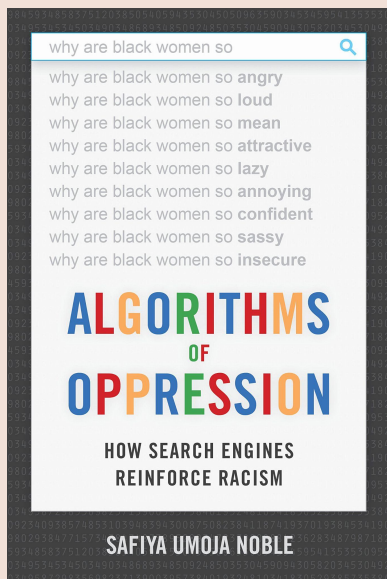
Aman Yadav (he/him)

Michigan State University

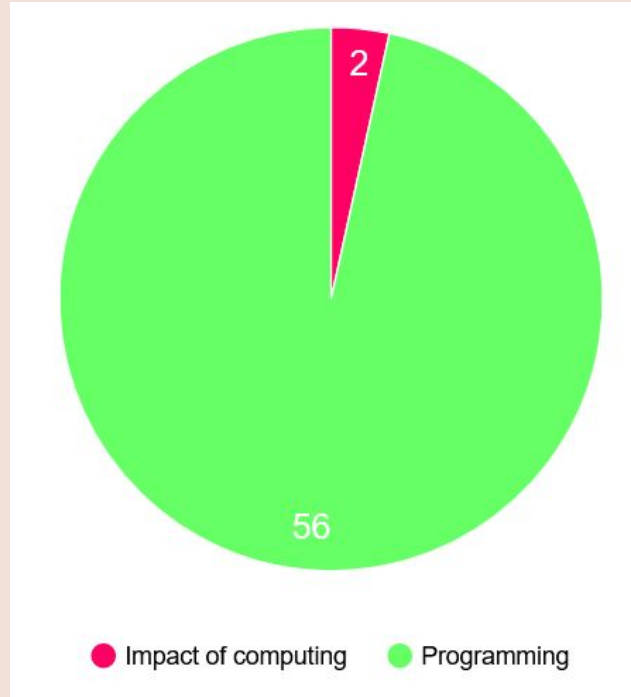
Rising influence of computing on society



Growing response from critical scholars



Computing education has ignored social impact



“Curricular requirement, not assessed on the AP Exam”

AP CS A course topics by big idea

Critical computing education

Proceedings > FAcT '21 > You Can't Sit With Us: Exclusionary Pedagogy in AI Ethics Education

RESEARCH-ARTICLE OPEN ACCESS



You Can't Sit With Us: Exclusionary Pedagogy in AI Ethics Education

Authors: Inioluwa Deborah Raji, Morgan Klaus Scheuerman, Razvan Amironesei [Authors Info & Claims](#)

DOI:10.1145/3424000

Amy J. Ko et al.

Education It Is Time for More Critical CS Education

By which 'critical' means an intellectual stance of skepticism, centering the consequences, limitations, and unjust impacts of computing in society.

Racial Justice Amidst the Dangers of Computing Creep: A Dialogue

Niral Shah¹ · Aman Yadav²

Accepted: 1 February 2023 / Published online: 25 February 2023
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Impact Factor: **8.2** / 5-



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Review article

First published online September 23, 2021

A Call for a Humanistic Stance Toward K–12 Data Science Education

[Victor R. Lee](#) , [Michelle Hoda Wilkerson](#) , and [Kathryn Lanouette](#) [View all authors and affiliations](#)

Research gap

- K-12 computing education
- In-service teachers
- Developing their...
 - Curriculum
 - Pedagogy
 - Teacher identity

Proposed Study

Co-designing critical computing lessons with in-service computing teachers through a summer workshop

Research questions (WIP)

1. In what ways do K-12 computing teachers develop their own critical perspectives on computing?
2. How do K-12 computing teachers integrate critical perspectives into their curricula?
3. How do K-12 computing teachers integrate critical perspectives into their classroom instruction?

Intervention

- Online summer workshop with in-service teachers
 - Building understanding of critical theory
 - Applying critical theory to computing
- Co-design sessions with participants, one on one
- Teachers will implement lessons the following term

Data collection

- Recordings of group discussions in workshop
- Interviews with participants before and after the workshop
- Recordings of the co-design sessions
- Teacher artifacts from co-design sessions
- Interviews during the implementation phase

Data analysis

- Qualitative analysis
- Thematic analysis (Braun & Clarke)
- Open coding
- Develop a codebook with definitions and examples
- Sense-making with another coder
- Member checking

Recruitment

- In-service K-12 computing teachers in the USA
- Approximately 6 participants
- Purposive sampling to increase diversity in terms of
 - Teaching experience, student demographics, etc
- Compensation ~\$500



Questions & Feedback
annedrew@msu.edu

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