NEVER NEUTRAL:

DATA, EQUITY, AND HOW THEY CAN WORK TOGETHER

BY SHEA SWAUGER
Hi.
My name is Shea.
1. Defining ‘data’ and ‘equity’

2. Examine three data-driven technologies:
   - Artificial Intelligence/Machine Learning
   - Predictive/Learning Analytics
   - Facial Recognition Technology

3. Define implicit logic:
   - Surveillance Capitalism
   - Technological Solutionism
   - Integration with law enforcement
   - Data Neutrality/objectivity

4. Workshop
   - Reflection prompts
   - Discussion and writing
OUTCOME

Be able to critically examine data-driven technologies with an equity-based framework
Data is a representation of power.
Equity is the destruction of oppressive systems and the repair of the harm caused.
DATA-DRIVEN TECHNOLOGIES TO EXAMINE:

1. Artificial Intelligence & Machine Learning
2. Predictive/Learning Analytics
3. Facial Recognition Technology
ARTIFICIAL INTELLIGENCE (AI) & MACHINE LEARNING (ML)

A computer system that is fed large amounts of data, which it then uses to learn how to carry out a specific task.
AI Has Potential to Ease Campus Budget Burdens

By delegating a broad range of tasks to artificial intelligence systems, colleges may free staff for higher-level engagement.

by Dave Doucette

Dave Doucette is director of West Coast higher education sales for CDW-G.

Campus applications of artificial intelligence may seem to be far in the future. But that’s changing. Colleges across the country are experimenting with AI in a variety of ways.

Their successes are encouraging, as is the fact that AIs is limited only by our imagination. Emerging technologies invite all of us to be active influencers and participants in their evolution.

Recently, I heard a colleague discuss technology innovations as a solution to a pervasive problem in higher education. We often turn senior faculty and administrators into well-paid typists.
AI/ML AND EQUITY

Amazon scrapped 'sexist AI' tool

An algorithm that was being tested as a recruitment tool by online giant Amazon was sexist and had to be scrapped, according to a Reuters report.
PREDICTIVE/LEARNING ANALYTICS

The use of historical data, statistical algorithms and machine learning techniques to identify the likelihood of future outcomes.
Learning Analytics

The 2016 Horizon Report describes learning analytics as "an educational application of web analytics aimed at learner profiling, a process of gathering and analyzing details of individual student interactions in online learning activities." Explore our collection of articles, presentations and seminars that further discuss the growing use of learning analytics in higher education and the benefits students gain from it.
Big data is becoming more prevalent in all circles, including higher education, which raises concerns over the effects of implicit bias on student access to education. (Photo credit: Getty Images)

The explosive use of big data, predictive analytics and other modeling techniques to help understand and drive outcomes in all types of organizations has significantly increased over the past decade.

This is part five of my annual look at the year’s “top ed-tech stories.”

As in previous years, it would be quite easy to fill a whole article in this series on “data insecurity,” on the data breaches and cyberattacks that continue to plague education – both schools and software. The issue extends well beyond education technology, of course, and in 2017 we witnessed yet again a number of high profile incidents (including some corporate admissions of breaches that had happened in years with data breaches).
FACIAL RECOGNITION TECHNOLOGY

Software to identify people by mapping their facial features and comparing that information with a database of faces.
Recognising students' emotions may improve learning

By Deketseng Monge
Johannesburg, 05 Aug 2019

Read time 3min 16sec

Recognising the emotions of students who study computer science might improve learning, according to a University of Johannesburg (UJ) study published by associate professor Dustin Terence van der Haar.
Gender and racial bias found in Amazon’s facial recognition technology (again)

Research shows that Amazon’s tech has a harder time identifying gender in darker-skinned and female faces

By James Vincent | Jan 25, 2019, 9:48am EST

Facial Recognition Software Regularly Misgenders Trans People

Human computer interfaces are almost never built with transgender people in mind, and continue to reinforce existing biases.

By Matthew Gault
Feb 19 2019, 12:11pm  Share  Tweet
REFLECTION TIME!
(1 MINUTE)

What is one thing you still have questions about?

What is one thing that was surprising?
OPERATING FRAMEWORKS

1. Surveillance Capitalism
2. Neoliberalism
3. Technological Solutionism
4. Integration with Law Enforcement
5. Data Neutrality/Objectivity
SURVEILLANCE CAPITALISM

- More data is better and smarter
- Personalization and automation is always desirable
- Used to sell products
NEOLIBERALISM

An economic philosophy that promotes

• Free market capitalism/deregulation
• Privatization
• Meritocracy
• Individualism
TECHNOLOGICAL SOLUTIONISM

The belief that technology can solve most problems, especially problems that are not technologically-based.
INTEGRATION WITH LAW ENFORCEMENT

- Policing
- Immigration (ICE)
- Military
- Prisons
- Criminal Justice
DATA NEUTRALITY/OBJECTIVITY

Myth: data is neutral or objective whereas people are subjective and biased

Reality: data is biased and so are people
The fight over the 2020 census citizenship question, explained

The battle over a simple question involves both Congress and the Supreme Court. And the stakes are high.

By Dara Lind and Libby Nelson | Jun 12, 2019, 5:20pm EDT

...adding a [question] could scare away millions of immigrants from filling out their mandatory surveys — throwing off the count of who’s present in America that’s used to determine congressional apportionment for the next decade, allocate federal funding for infrastructure, and serve as the basis for huge amounts of American research.”
DATA IS A REPRESENTATION OF POWER

“If you’re not white, this new research may fail you.”

Genetics has learned a ton — mostly about white people. That’s a problem.

The overwhelming whiteness of genetics research is holding back medicine.

By Brian Resnick | @B_resnick | brian@vox.com | Updated Oct 27, 2018, 10:56am EDT
Unless we are critical, data-driven technology will reproduce and amplify historical discrimination and violence, **and we will let it happen because we think data can’t discriminate or cause violence.**
How we can critically examine data to further equity?

How can we get our institutions to do the same?
DISCUSSION AND WRITING

CITATIONS

Everything You Need To Know About Artificial Intelligence

AI Has the Potential to Ease Campus Budget Burdens
https://edtechmagazine.com/higher/article/2019/07/ai-has-potential-ease-campus-budget-burdens

A University Leader's Glossary for AI and Machine Learning

Amazon scrapped 'sexist AI' tool

Bad News: Artificial Intelligence Is Racist, Too

Predictive Analytics: What it is and why it matters

Learning Analytics
https://library.educause.edu/topics/teaching-and-learning/learning-analytics

Big Data And The Problem Of Bias In Higher Education

The Weaponization of Education Data

What is Facial Recognition? How computers use face scan technology to identify users
https://www.lifewire.com/how-does-a-computer-recognize-your-face-4154178

Facial Recognition Software Regularly Misgenders Trans People
Gender and racial bias found in Amazon's facial recognition technology (again)

Surveillance Capitalism

Neoliberalism
https://en.wikipedia.org/wiki/Neoliberalism

Technological Solutionism

ICE hacked its algorithmic risk-assessment tool so it recommended detention for everyone
https://boingboing.net/2018/06/26/software-formalities.html

Trump wants to “detect mass shooters before they strike.” It won’t work.

Killer robots: Scientists concerned over ethics of military AI

Facial recognition tech trialled at prisons
https://www.govtechleaders.com/2019/03/12/facial-recognition-tech-trialed-at-prisons

Courts Are Using AI To Sentence Criminals. That Must Stop Now

The fight over the 2020 census citizenship question, explained

Genetics has learned a ton — mostly about white people. That's a problem.