



**KELLEY**  
SCHOOL OF BUSINESS  
Institute for International Business



## **CIBER Focus Interview Series**

### **Video Annotation**

**Bias and Representation in Artificial Intelligence**

**Link:** <https://www.youtube.com/watch?v=e2i1iADw7A0>

**Length:** 18:17

**Production Date/Year:** December 5, 2018

**Keyword Topics:** Artificial Intelligence, Representation, Bias, STEM, Discrimination,

## Guest Info: Dr. Timnit Gebru

Dr. Timnit Gebru recently began working as a Research Scientist at Google AI after completing her post-doc research in the Fairness Accountability Transparency and Ethics group at Microsoft Research. Her research currently targets ethical considerations of data mining projects and methods to audit and mitigate bias. Dr. Gebru received her Ph.D. from the Stanford Artificial Intelligence Laboratory and her work has been featured in the New York Times, Economist, and MIT Tech Review. She is the co-founder of Black in AI, where she works to both increase diversity in the artificial intelligence field and reduce the negative impacts of racial bias in data.

## Video Summary/Synopsis:

1:53 - Gebru displays her findings of racial bias being present in facial recognition software/artificial intelligence and what greater effects this may have on society.

4:20 - Gebru hypothesizes the reasons why these discrepancies in artificial intelligence occur.

5:42 - Gebru discusses whether there are other areas of A.I. outside of facial recognition software that are being affected by inherent racial bias.

7:10 - Gebru outlines what can be done going forward to reduce the issue of racial bias in artificial intelligence software.

10:12 - Gebru explains what her Black in AI organization does and how it started.

14:32 - Gebru explains the effects that a lack of representation has had on the STEM field while going on to explain what the business community can do to help make change.

## Standards:

- **Geography and World History**
- **GHW.3.5**
  - Analyze population trends in the local community and suggest the impact of these trends on the future of the community in relation to issues such as development, employment, health, cultural diversity, schools, political representation and sanitation.
- **GHW.6.3**
  - Map the spread of innovative art forms and scientific thought from their origins to other world regions. Analyze how the spread of these ideas influenced developments in art and science for different places and regions of the world.

## Ethnic Studies

- **ES.1.3**
  - Students evaluate how society's responses to different social identities lead to access and/or barriers for ethnic and racial groups in relation to various societal institutions, including but not limited to education, healthcare, government, and industry.
- **ES.3.1**
  - Students identify and explore current traditions, rites, and norms of an ethnic or racial group(s) and how they have or are changing over time.

## Psychology

- **P.7.6**
  - Explain how stereotypes, prejudice, and discrimination influence behavior.

### Sociology

- **S.5.1**
  - Distinguish between biological (ascribed) status and socially assigned gender roles.
- **S.5.2**
  - Explore how gender role socialization occurs.
- **S.5.3**
  - Explore sexism in language.
- **S.5.4**
  - Describe the functional explanation of gender role socialization and contrast it with the conflict explanation.
- **S.5.5**
  - Explore how gender roles differ in different societies and how they change over time.
- **S.5.6**
  - Examine gender roles from the functionalist, the interactionist, and the conflict perspectives.

### U.S. History

- **USH.7.1**
  - Explain the efforts of groups of African Americans, Native Americans, Latinx, LGBTQ community, and women to assert their social and civic rights in the years following World War II.
- **USH.7.4**
  - Describe developing trends in science and technology and explain how they impacted the lives of Americans during the period 1960-1980.
- **USH.7.6**
  - Identify the problems confronting different minorities during this period of economic and social change and describe the solutions to these problems.

### Essential Questions:

- How does artificial intelligence discriminate against people of color?
- What are ways in which technology may be improved to stop discriminating against people who are not white?
- What actions are taking place currently to address the issue?
- How can students help affect change regarding discrimination in STEM fields?
- How does lack of representation negatively affect minority groups?
- **Depth of Knowledge:**
- Students will understand how discrimination negatively effects people of color in STEM.
- Students will apply the studies done by Dr. Timnit Gebru to historical examples of hidden discriminatory policies or examples.
- Students will analyze the impact that representation in positions of power affects minority groups.
- Students will create an ad campaign targeting minority groups to choose STEM fields.

### Additional Links & Related Information:

- [Last Week Tonight "Facial Recognition"](#) - Video (\*\*Must be edited to remove inappropriate language)
- [Women, Minorities, and Persons with Disabilities in Science and Engineering](#) - Statistics

- [Here's What Happened when Black Politicians Held Power](#) - Article