Balancing Science Education Toward Engaged Citizenship: AI Ethics and Humanities

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International Conference
NEW PERSPECTIVES in SCIENCE EDUCATION
Florence, Italy, March 19, 2025

Higher education, Now

Prompt: “Higher education is experiencing turbulent times”

– artificially generated by ChatGPT 4o

What kind of science education is needed in higher education?

- Broad, dynamic education
- Cross-disciplinary
- AI ethics
- Humanities integrated

ETHICS | WINTER 2018

Why Frankenstein matters

Frontiers in science, technology and medicine

By Audrey Shafer, MD
Illustration by Michael Waraksa
February 26, 2018

Source: Shafer, A. (2018, February 26). Why Frankenstein matters: Frontiers in science, technology and medicine. *Stanford Medicine*. p. 9.

"Studying and discussing works of art and imagination such as *Frankenstein*, and exchanging ideas and perspectives with those whose expertise lies outside the clinic and laboratory, such as artists, humanists and social scientists, can contribute not just to an awareness of our histories and cultures, but also can help us probe, examine and discover our understanding of what it means to be human. That much is clear." – Audrey Shafer, MD

Team

Primary Instructor

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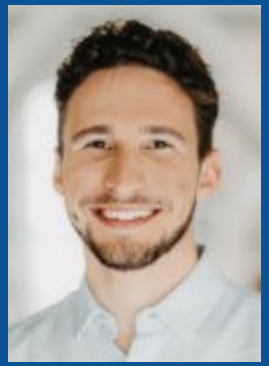

Collaborator/TA

Dāvis Benefelds

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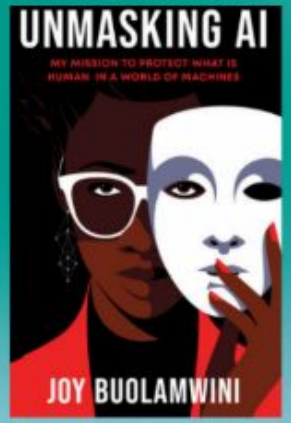
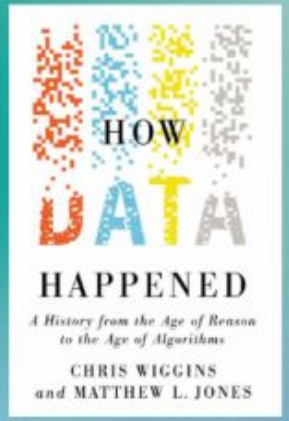
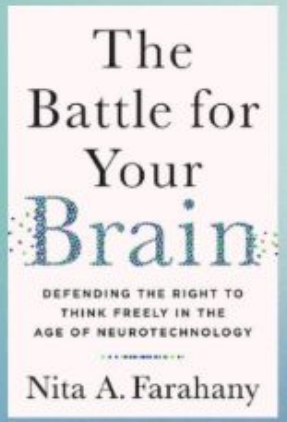
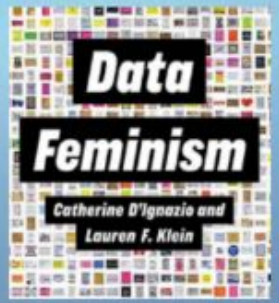
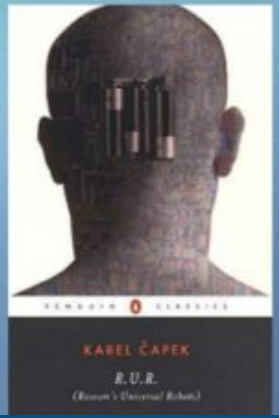
Selected Materials

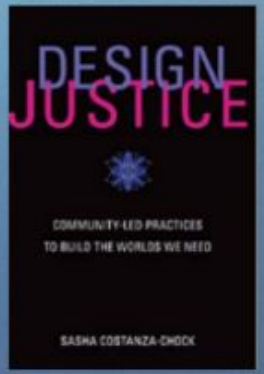












Course Design

Humanities Track Projects

Presentation

- AI Ethics Industry Research
- AI Ethics Theory Presentation
- Online Forum

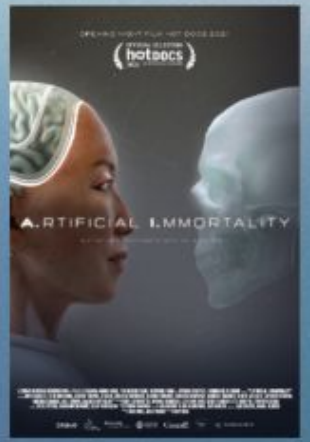
Class Discussion

Community Learning

Technical Track Projects

Presentation

Beyond Classroom: Community Learning



Film Night at Forum Cinema

Track	Title/Content	Medium
Tech	Algorithm on fetus abnormality detection	Algorithm, ethical analysis
Tech	Algorithm on maze robots	Algorithm, ethical analysis
Tech	Algorithm on real estate pricing in New York	Algorithm, ethical analysis
Tech	Titanic survivability challenge	Algorithm, ethical analysis
Humanities	Deepfakes and Their Impact on Society	Academic essay
Humanities	Silicon Shephard (AI in agriculture)	Booklet
Humanities	Mind over Data (AI in mental health)	Magazine
Humanities	AI Ethics: How Our Future Looks Like (AI robots that dance)	Magazine
Humanities	AI in Education	Interview
Humanities	Possibility of AI Taking over Healthcare Professions	Academic essay
Humanities	AI and Cyber Warfare: The Inevitable Evolution of Military Conflicts	Academic essay
Humanities	Global AI Perspectives: The Influence of Governance and Economic Status on Societal Views of AI and Its Development	Academic essay
Humanities	Effective Accelerationism	Academic essay
Humanities	Sentient AI and Robot Rights	Academic essay
Humanities	AI in Art Industry (copyright issues)	Portfolio

Final Projects
Spring, 2024

Conclusion

What if?

Caspar David Friedrich, *Wanderer above the Sea of Fog.* ca. 1817.

"But the space dreams *are* problematic if the result is that early problems are neglected [...] She [Hannah Arendt] suggested that science supports a desire to leave the Earth: literally, by means of space technology (in her time, Sputnik) but also by means mathematical methods that abstract and alienate from what I would call our messy earthly, embodied, and political life."

– Mark Coeckelbergh, *AI Ethics*. p. 195.

"For this I had deprived myself of rest and health. I had desired it with an ardour that far exceeded moderation; **but now that I had finished, the beauty of the dream vanished,** and breathless horror and disgust filled my heart. Unable to endure the aspect of the being I had created, I rushed out of the room [...]."

– Mary Shelley, *Frankenstein,* Ch. IV.

What kind of science education is needed in higher education?

- Broad, dynamic education
- Cross-disciplinary
- AI ethics
- Humanities integrated
- Engaged citizenship

References*

*This list is limited to works referenced in the slides. For a complete list, please refer to the References section in the conference proceedings paper.

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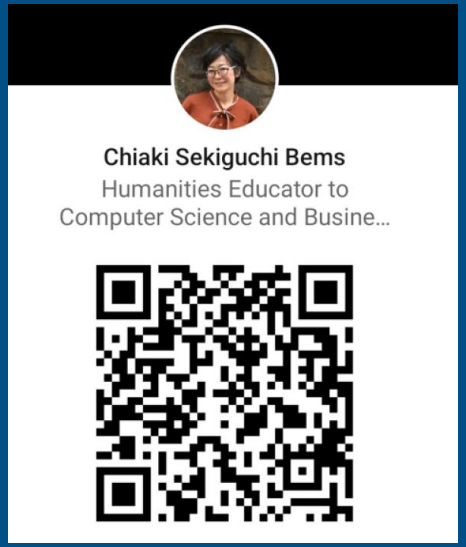
Thank you

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