# Rapid technological Change
## Making Good AI
## Prevent Harm
## Promote Good

Commission on Science and Technology for Development

Palais des Nations, Geneva

Don Gotterbarn
ACM Committee on Professional Ethics
Software Engineering Ethics Research Institute

Gotterbarn@ACM.org

# Computing and Ethics

- Last century's software Crisis
  - Banks, Bills, Calculator, Military,…
  - Computer Mistakes, Bugs, and Bad people

- Make it "Software ENGINEERING"
  - STANDARDS to Work responsibly killing bugs
  - Strive to act/work responsibly
  - Ethical/professional standard: Codes of Ethics
- Increasing impact on our lives
  - Still a tool, but one that matters

Gotterbarn @ ACM.org

# Computing and Ethics
## Phase II AI **Ethics** Crisis

- **Ethics:** any decision I make that impacts individuals groups society and its citizens.

- AI can make decisions then:
  - AI systems are doing ethics
  - We must control them so they act ethically
  - AI must have a code of ethics
  - AI must follow ethical principles

MORAL CODE:
THE ETHICS OF AI

ITU EVENTS
AI for Good
Global Summit
15–17 May 2018
Geneva, Switzerland
Accelerating progress towards the SDGs
#AIforGood

AI-Ethics.com
Dialogue
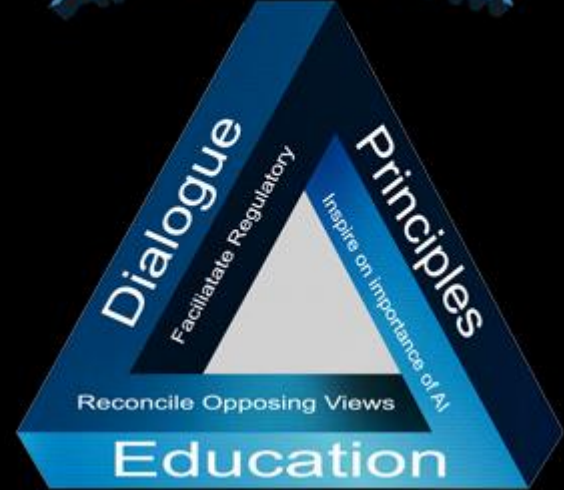Principles
Facilitate Regulatory
Inspire on importance of AI
Reconcile Opposing Views
Education

AI ETHICS LAB

For example: Asilomar [Artificial Intelligence] AI Principles, General Principles in Ethically Aligned Design, version 2, by the Institute of Electrical and Electronics Engineers... the Association for Computing Ma...

A.I. and Privacy Concerns Get White House to Embrace Global Cooperation
Stanford's new AI institute is inadvertently showcasing...
How a Robotic Tail Could Hel...

| | April 3, 2019 |
| | March 23, 2019 |
| | April 5, 2019 |
| | April 5, 2019 |
| | April 4, 2019 |
| | April 4, 2019 |
| | April 7, 2019 |
| | April 9, 2019 |
| | April 4, 2019 |
| | April 6, 2019 |
| | April 6, 2019 |
| | April 5, 2019 |
| | April 8, 2019 |
| | April 3, 2019 |
| | April 7, 2019 |
| | March 26, 2019 |
| | April 5, 2019 |
| | April 4, 2019 |

AI and big data vs ethics: How to make...
Microsoft and University of Washington...
Tesla Model 3 hack shows new cars ca...
'Unplanned' actress on Twitter backlash...
Here's How Hackers Stole $15 Million F...
The Weaponization of Artificial Intellige...
Top 10 Technology Trends Transformin...
Tales Of The Slippery Slope: Amazon A...
US ambassador in Berlin urges German...
Apple is Guilty of Infringing on Three Q...
Facebook outage drives millions to find...
On Amazon, a Qanon conspiracy book...
New Zealand mass shooting shows tec...
Facebook proves Elizabeth Warren's p...
AI's people problems: Pros tackle ethic...
Cooler Screens' display cases scan yo...
Apple and Stanford's Apple Watch stud...
YouTube creators are using a h...
Moral Dilemmas of Self-Driving...

| | March 25, 2019 |
| | March 31, 2019 |
| | March 29, 2019 |
| | April 1, 2019 |
| | March 15, 2019 |
| | February 25, 20 |
| | March 18, 2019 |
| | March 15, 2019 |
| | March 11, 2019 |
| | March 16, 2019 |
| | March 13, 2019 |
| | March 4, 2019 |
| | March 16, 2019 |
| | March 11, 2019 |
| | March 8, 2019 |
| | March 10, 2019 |
| | March 16, 2019 |
| | March 15, 2019 |
| | February 26, 20 |
| | March 15, 2019 |

| Bloomberg | March 13, 2019 |
| The Wall Street Journal | March 17, 2019 |
| The Verge | March 16, 2019 |
| Wired | March 16, 2019 |
| The Next Web | March 11, 2019 |
| CNBC | March 9, 2019 |
| Engadget | March 15, 2019 |
| FOX News | March 16, 2019 |
| FOX News | March 10, 2019 |
| ABC News | March 9, 2019 |
| Wired | March 7, 2019 |
| The Wall Street Journal | March 4, 2019 |
| MIT Technology Review | January 18, 20 |
| The New York Times | March 7, 2019 |
| The New York Times | March 8, 2019 |
| PC Magazine | March 7, 2019 |
| The Wall Street Journal | March 7, 2019 |

How VR brought me inside a scary-real radioactive F...

...ey Understand YouTube.

...t of AI and other technologies

| The Wall Street Journal | February 28, 2019 |
| The New York Times | March 1, 2019 |
| The New York Times | March 1, 2019 |
| Buzzfeed | March 3, 2019 |
| The Tech Advocate | February 22, 2019 |
| South China Morning Post | March 3, 2019 |

...sco.org/ark:/48223/p10000255952 (accessed 25 February 2019).
...018, United Nations Secretary-General's strategy on new technologies, September.
Available at www.un.org/en/newtechnologies/images/pdf/SGs-Strategy-on-New-Technologies.pdf.

S.E.E.S
SOFTWARE ENGINEERING ETHICS

acm

# We need AI Ethics Codes

- No one has ever thought of this before, so I must write my own code

- The EU, Microsoft, The Southern Baptists and others just developed their own local AI Ethics Standards.

- Good to have lists but we need something more.

Gotterbarn@ACM.org

# **Ethical AI** -  like having a different defibrillator on every  wall

Gotterbarn@ACM.org

# Ethical AI- some problems

- AI are Not ethics, ETHICING

- Not A new problem: ignoring research repeats mistakes

- False Dichotomy: A is ethical, B is not ethical
  - Index certification checkbox, 2167A
  - Need guidance how to navigate a messy world

- Making infinite unique "Codes of Ethics" is dangerous

Gotterbarn@ACM.org

# AI Codes of Ethics harmful??

- Too many unnecessary diverse documents.

- Computing is universal

- Compliance model **frames out** ethics
  - Skill training is the answer

- Unworkable canonical models

Gotterbarn@ACM.org

# Some suggestions to make Codes useful

- Begin the conversation with common principles
  - Don't use AI to support new socio-cultural divides.
  - Emphasize intercultural rather than Multicultural
- Frameworks:
  - Extended stakeholders

Gotterbarn@ACM.org

# Consider Extended  Stakeholders

- Minimal set of questions: Ask whose…

…behavior and work process will be affected?

…circumstances or job will be affected?

…experiences will be affected?

Gotterbarn@ACM.org

# Some suggestions to Make Codes useful

- Begin the conversation with common principles
  - Don't use AI to support new socio-cultural divides.
  - Emphasize intercultural rather than Multicultural
- Frameworks:
  - Extended stakeholders
  - Make a "Never do" list
  - Proactive ethical risk identification tool- document process
    - If can't monitor or predict than DO NOT RELEASE

Gotterbarn@ACM.org

# Code of Ethics for good people

- Aspirational Codes with flexibility

- Develop tools to help analyze changing situations

- Policy about:
  - Proactive ethical risk analysis
  - Documenting and monitoring risk analysis
    - Continued deployment only if meeting these tests
  - All checkbox reviews require explanatory support for item checked.
  - Transparency- What and Why

# How do I use this ?

- Recognize Complexity

- Need training and oversight for special cases

- AI is not ethical, but it can perform in a positive ways when directed and enforced by us and software.

Gotterbarn@ACM.org