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# Social, Ethical, Policy, and Legal Considerations

University of Maine Artificial Intelligence Initiative

Institute of Electrical and Electronics Engineers Maine COM/CS Chapter

**Foundational AI Research – Social, Ethical, Policy, and Legal Considerations**
Session: 4
Social, Ethical, Policy, and Legal Considerations

**Date:** April 29, 2020
**Run Time:** 00:30:10
https://youtu.be/6uQYcZBRLKE

**Moderator:** Shaleen Jain, Professor of Civil and Environmental Engineering, UMaine
**Panelists:** Jim Isaak, Former President of IEEE Computer Society
Harlan Onsrud, Professor of Spatial Informatics, UMaine
Peter Guffin, Co-Director of the Information Privacy Program, University of Maine School of Law

The University of Maine Artificial Intelligence Initiative (UMaine AI) is a unique Maine-based venture that brings together university, industry, government, and community collaborators from Maine and beyond to advance the field of artificial intelligence, and through development of innovative technologies and applications find transformative solutions to enhance human life and societal well-being in Maine and beyond.

**Transcript is machine generated, unedited, in English.**

00:00
good afternoon I'm clean Jane and I'm a
00:08
professor in civil and environmental
00:12
engineering and one of the big questions
00:22
this works I wanted to take questions in
00:30
the realm of AI work is how to deploy AI
00:36
in an ethical safe and fair manner and
00:40
this is important at all levels private
00:46
citizens communities industry and
00:49
governments so for the next half hour
00:56

let's focus on these issues at the
01:00
intersection of technology and society
01:05
and we have essentially four internal
01:08
link facets here social ethical policy
01:14
and legal and so we have with us today
01:19
Jim Isaac who's an electrical engineer
01:24
and a past president of Tripoli
01:28
computers society a visionary in the
01:33
field of AI Jim writes extensively on
01:38
the future of society one power by AI
01:43
and we have Harland construed who's a
01:47
engineer and a lawyer and a professor of
01:52
spatial in from Maddox at humane he's
01:57
the Past Chair of the u.s. National
02:00
Committee on data for science and
02:06
technology of the National Research
02:09
Council and finally
02:13
we have Peter guffin who's a visiting
02:17
professor of practice and co-director of
02:20
information privacy law program at the
02:25
humane Law School and he heads the
02:28
privacy and data security practice at
02:33
Pierce atwood LLP
02:36
he has written extensively on
02:40

cybersecurity law information privacy
02:46
and has consulted and counseled on Wall
02:52
Street so Jim okay I think we have some
02:58
slides let me expand a little on aspects
03:04
of this bio because they relate to some
03:05
of the questions that have come up
03:07
oops can you go back one thank you the
03:13
communications I took the USA is a part
03:16
of I Triple E that deals with federal
03:18
policy go back when begin and that
03:23
federal policy issues are things like
03:27
privacy cyber security 5g rollout and
03:32
technology and so forth so the topics
03:40
that we're talking about here roll into
03:41
that I chair a committee on the actual
03:45
applications of communications policy
03:48
and computer policy and participate Vai
03:50
committee as well I think Walter is also
03:53
part of that activity another one of the
03:56
areas I'm involved with is the public
04:02
standards work on AI ethics and all
04:05
these are hot links so when you get the
04:07
slides you can actually go through and
04:09
depth and see what kinds of documents
04:11

are hiding behind this there's a huge
04:13
amount of documents on AI ethics I've
04:16
highlighted one here
04:17
in the next slide on the
04:20
ái persuasion or nudging policies and
04:25
then finally I'm involved with the I
04:27
Triple E collaborative activity where we
04:29
have some communities that can maintain
04:31
an ongoing dialogue on some of these
04:33
topics and again those are open to the
04:36
public so if you're interested in some
04:38
of the topics there it includes privacy
04:40
and Trust as one topic and another one
04:43
that's just come up is broadband and
04:45
koga 19 and the experience for rural
04:48
broadband with that so those are the
04:50
kinds of things we're working with there
04:51
so go to the next slide okay anyway
04:59
you'll have a chance to look at the
05:01
slides as they become available online
05:04
one of the challenges you heard about
05:06
earlier is the fact that a major aspect
05:10
of AI application today is in
05:13
advertising and huge industries Apple
05:17

Amazon Google Facebook are all driven in
05:22
part by advertising revenue so the that
05:28
bribe driven with AI behind it creates
05:32
an opportunity to both maximize the
05:35
effectiveness AI of bringing forward
05:37
customers and encouraging them to buy
05:40
classic marketing advertising but also
05:43
influencing them and one of the
05:46
challenges we face with that influence
05:48
is twofold
05:49
certainly there people out there who
05:51
want to influence people independent of
05:53
their actual best interests so there can
05:57
be abusive that potentially in that way
06:00
and the second one is letting a eyes
06:02
loose to maximize a specific objective
06:05
whether it's the most people buying a
06:07
certain deodorant or whether it's to
06:09
vote for a certain candidate one of the
06:13
problems we have with AI deep learning
06:15
particularly when it's built in with
06:18
feedback loops is it can determine how
06:22
to best accomplish its objective in ways
06:24
that the humans involved with it may not
06:27

at all understand one of the questions
06:29
that popped up earlier was on AI bias
06:32
and variations of that but a is deep
06:35
learning are capable of acquiring and
06:39
applying approaches that the people who
06:42
created them may not understand so that
06:46
leads to my well and I should have add a
06:51
eyes are not able to explain themselves
06:52
sometimes people running them can and
06:56
sometimes you can back engineer reverse
06:58
engineer and fracture why the AIS came
07:00
up with those conclusions but complex
07:03
systems like this are not always easily
07:05
reverse engineered and it's not clear
07:08
that AIS will never be able to actually
07:10
explain why they did something I might
07:13
add humans aren't really good at that
07:15
either so as we move closer to human
07:18
type intelligence we shouldn't be
07:19
surprised if the machines can't explain
07:22
their decisions the next slide basically
07:28
focuses on where I see the biggest
07:30
challenge we face Abraham Lincoln is
07:34
attributed to has said this it isn't
07:36

actually his quote but we'll use it as
07:37
his anyway you can fool some of the
07:39
people all the time and all the people
07:41
some of the time but you can't fool all
07:42
the people all the time I think that can
07:45
be three assumptions and you apply AI to
07:49
that the real question is can you fool a
07:51
sufficient number of people a sufficient
07:53
amount of the time which leads to this
07:55
issue of AI driven persuasion nudging
08:00
propaganda brainwashing variety of not
08:03
means to what it can be done there and
08:05
there are fairly good research results
08:09
coming out about what a eyes can derive
08:11
about individuals in terms of their
08:14
personality and various characteristics
08:16
my last slide useful slide is the next
08:20
one I might as well go to it points to a
08:23
couple of the research people doing work
08:24
on this Mikkel Kaczynski at Stanford is
08:28
doing work on analytics and privacy and
08:31
psychological analysis using AI
08:34
technology and Facebook so that's one in
08:38
reference point for that kind of
08:40

research
08:41
there's also efforts school
08:46
Stanford had on persuasion using
08:50
technology that actually that program is
08:52
now closed down however I noticed Oxford
08:55
has a similar program on the online
09:01
persuasion technology so this area is
09:05
being something that study we are
09:07
starting to understand that it can be
09:09
done and how it can be done
09:11
and the use of AI and applying to it it
09:13
is multi disciplinary this is not
09:16
something that the technologists
09:18
understand it's not something that
09:19
psychologists understand it requires
09:22
that multiple disciplinary perspective
09:24
and leads to some really challenging
09:27
questions about well there a is not
09:31
maliciously not the terminator type AI
09:34
but simply a is trying to optimize a
09:38
particular objective will start to
09:40
influence us in ways that go beyond our
09:43
control or our awareness so thank you
09:46
Dan shared we can throw to the questions
09:48

may rise thank you thank you Jim Harlan
09:54
okay well as you've been hearing from
09:57
most of the previous speakers the
10:00
positive societal applications of AI are
10:03
myriad many of the applications
10:05
particularly those focused on advancing
10:08
science tend not to raise human privacy
10:11
or human autonomy concerns and indeed
10:15
promise great benefits for Humanity yet
10:18
many current deployments have already
10:20
given rise to substantial negative
10:23
societal effects most of us interact
10:29
with AI developed algorithms on a daily
10:31
basis yet most of us are unaware of
10:33
those interactions and most of us are
10:36
unaware of their effects on our daily
10:39
lives our legal system combined with
10:42
technological advancements has made
10:44
massive accumulation of data possible as
10:47
we've been hearing by knowing your
10:48
digital tracks in detail AI techniques
10:51
are better able to analyze your past
10:53
action patterns and predict your future
10:56
actions as well as those of
11:00

other people and your interactions with
11:02
those other people
11:03
algorithmic operations applied to big
11:06
data are being used to classify and
11:08
target individuals to sell you goods and
11:11
services more effectively and influence
11:14
your decisions and attitudes in social
11:17
and political contexts up to an
11:20
including voting modern decision
11:22
guidance systems are hurting us in our
11:26
choices these conditions have also made
11:29
massive wealth concentrations possible
11:31
slide 2 I'm not going to go into details
11:36
but AI has been a major factor in
11:41
automated propagation of discrimination
11:43
has greatly facilitated the expansion of
11:46
income inequality will continue to be a
11:50
growing contributor to massive job loss
11:52
globally and many of the negative
11:55
effects of AI are a result of a US legal
11:58
framework which is overly supportive of
12:01
surveillance capitalism now I would
12:04
argue of course that capitalism is good
12:06
but not all capitalistic approaches are
12:08

well suited to support justice in a
12:10
democracy
12:11
Jayson lay near the father of virtual
12:14
reality argues that there is more than
12:16
one way to build an information society
12:18
and we in the u.s. have chosen these
12:22
self-destructive path so let me just
12:25
suffice it to say that AI advancements
12:27
have been complicit in advancing serious
12:30
widespread and substantial challenges
12:33
for democracy's slide through the next
12:36
life so how do we flip this around how
12:40
we alter some of the applications of AI
12:42
to convert their use to positive forces
12:45
in improving societal conditions and I
12:49
think research is going to be a large
12:50
part of the solution and one fundamental
12:53
question we are currently pursuing here
12:56
in Maine is how many information
12:58
societies enable rich opportunities for
13:01
all humans to more equitably share in
13:03
the financial benefits of vibrant
13:05
information economies while also
13:08
supporting the agency and autonomy of
13:11

individual humans
13:13
that is how can we bring ethics back
13:16
into the equation slide 4 so a current
13:20
research focus at the university of
13:23
maine is on the development and
13:25
exploration of ethics driven
13:27
market-based combined legal
13:31
technological models technology by
13:34
itself is not the answer button but
13:37
neither is merely tweaking the legal
13:40
system we need to explore a range of
13:43
combined legal technological approaches
13:45
and then deploy those models through
13:48
proof-of-concept software development in
13:51
order to illustrate just exactly how
13:54
those solutions could actually work so
13:56
again we need to get back to basics so
13:59
my last slide is if you're interested in
14:02
the details of some of our current work
14:04
on these issues
14:06
here's simply a recent paper of
14:09
potential interest thank you darling
14:13
so Harlan that was a great introduction
14:17
to my presentation on the intersection
14:22

between data protection laws and
14:25
regulations and the use of AI
14:27
technologies but what I thought I would
14:30
do in this segment is really focused on
14:34
on that intersection and to really put
14:38
up a sign alight on the fact that the AI
14:41
systems or many of them that we've heard
14:44
about today actually the inputs are
14:48
personal data and and the outputs as
14:51
well from these AI systems many of them
14:54
constitute personal data
14:56
you know these outputs representing
14:58
statistical guesses not factual
15:00
information about individuals and
15:03
they're used to classify people make
15:05
predictions about people make judgments
15:06
and decisions affecting people so from a
15:10
data protection perspective one might
15:14
think of an AI system is actually
15:16
manufacturing personal data about an
15:19
individual so recognizing that there are
15:24
you know lots of positives as Harley
15:26
just mentioned there are also you know
15:31
risks with respect to unfair
15:33

discriminatory outcomes perpetuation of
15:35
existing socio-economic disparities so
15:40
data protection regulators across the
15:43
across the globe are actually beginning
15:46
to address the use of AI technologies
15:49
attempting to mitigate those risks
15:52
recognizing that AI technologies are
15:57
really you know becoming increasingly
16:01
sophisticated and and widespread so the
16:11
focus of looking at or my reason for
16:15
wanting to compare different countries
16:18
and how they regulate AI is is that I
16:21
think putting on but putting some
16:25
attention to the similarities and the
16:28
differences is useful in helping guide
16:31
organizations guiding policymakers with
16:33
respect to how how how to comply with
16:38
data protection rules and principles and
16:41
ethical requirements with respect to the
16:43
use of AI so to that end in this
16:49
presentation I'd like to look quickly at
16:50
B the FTC the Federal Trade Commission
16:52
here in the US I like to look at the the
17:00
UK's Information Commissioner's Office
17:03

and how they are approaching AI
17:07
regulation and then and then the last
17:09
would be the Singapore personal data
17:13
protection Commission I chose these
17:15
three because each represents
17:17
influential data protection regulators
17:20
so with respect to the next slide with
17:23
respect to the Federal Trade Commission
17:25
you know the that they will they will be
17:29
the first to recognize that they've had
17:33
a long standing relationship with
17:36
regulating algorithms in the financial
17:39
sector
17:40
and that is through their enforcement
17:42
powers with respect to the fair the Fair
17:44
Credit Reporting Act in their role as a
17:48
as an enforcer of the Federal Trade
17:52
Commission Act which prohibits unfair
17:55
and deceptive trade practices you know
17:57
they also have played the leading role
17:59
here in the US with respect to data
18:02
protection regulation so they recently
18:05
as recent as April of this year issued a
18:08
guidance which set forth some key
18:11

principles and they're listed here on
18:15
the slide and they they may look
18:17
familiar to some who are familiar with
18:19
the Fair Information privacy practices
18:22
but they go a bit further and they
18:24
actually build upon some of the
18:26
principles in the Fair Credit Reporting
18:27
Act the guidance however fell short in
18:32
my view in terms of really not being
18:34
very specific and helpful and useful in
18:37
in addressing the unique challenges in
18:40
the AI context other than this FTC act
18:47
there's really is no comprehensive
18:50
federal data protection regulation with
18:54
respect to a I here in the US so turning
18:57
our attention to the UK which has as its
19:02
lead data protection enforcer the
19:05
Information Commissioner's Office
19:06
they've actually been leading the way I
19:10
think in the world around regulation of
19:13
AI again from a data protection
19:15
compliance perspective in other words
19:18
trying to address the risks to
19:21
fundamental rights and freedoms of
19:23

individuals the kinds of interests and
19:26
rights that Harlan was focusing on in
19:29
this presentation and in their work they
19:32
have come up with an auditing framework
19:35
which actually is useful for them in
19:37
terms of auditing organizations that are
19:41
actually using AI to make sure that the
19:44
organization's are complying with the
19:46
Data Protection Act in the UK and the
19:49
gdpr which is the European data
19:51
protection law
19:53
uh and what they do is is really I think
19:57
do a really good job of drilling down
19:59
into some of these more nuanced issues
20:01
with respect to what constitutes fair
20:04
lawful and transparent processing they
20:08
dive deeply into this explain ability
20:11
issue that was first discussed today
20:15
Karla broadly and and one of the things
20:20
I really liked about the UK is they they
20:23
really brought forward this concept of a
20:26
data protection impact assessment when
20:28
an organization is either either
20:30
developing or deploying some AI
20:33

technology and also go to some questions
20:43
and and let all the speakers response so
20:50
actually that yep so the first one I
20:55
will pose to you is can you address the
21:04
implications of the use of AI
21:08
technologies in education with regards
21:12
to the protection of FERPA data yes very
21:18
very timely subject isn't it yes yeah it
21:22
comes up in the context of both FERPA
21:25
and also it comes up in the connection
21:28
of compliance with myriad state laws
21:31
that actually go further and then FERPA
21:34
in actually addressing the online
21:38
providers who are actually providing
21:40
these different solutions that are being
21:42
used to collect information for useful
21:46
educational purposes but the use of that
21:49
information for purposes of better
21:52
informing their algorithms to better
21:55
inform teachers and educators about
21:58
their performance it's an area of
22:01
increasing interest and a both a federal
22:06
that
22:07
the federal law here is FERPA as you
22:09

mentioned but there are various state
22:11
enactments of FERPA and other laws like
22:14
the California Student Information
22:16
Privacy Act which has been found in
22:19
which has been actually followed in a
22:21
lot of other states including Maine
22:23
thanks great thank you so second
22:28
question addressed to Jim how are the
22:35
ethical and social aspects being
22:39
integrated into K to 16
22:44
education focused on computing AI and so
22:50
on I'm not directly in the area of
22:55
dealing with how to integrate this into
22:58
the education system but unfortunately
23:01
ethics has not received a very high
23:03
visibility in any level of education
23:07
University down and so the social impact
23:12
issues are both of high concern and I
23:16
will give you a quick example of that in
23:18
a minute and not very not formally put
23:22
into the curriculum at almost any level
23:25
short of the university where you
23:27
typically do get ethics as a topic I'll
23:30
give you a quick example and now judging
23:32

the young inventors program here in New
23:34
Hampshire and one of the inventors was
23:37
demonstrating a machine that would go
23:39
next to your mailbox and be used to
23:41
immediately shred junk mail so that your
23:45
personal information on that junk mail
23:47
would not end up in your waste paper
23:49
basket invisible to someone you might
23:51
read that yeah for fourth grader I
23:55
thought that was a wonderful
23:56
understanding of privacy issues and I'll
23:58
take it but yeah it goes much more much
24:01
deeper and the problem is that until
24:03
people understand the kind of issues
24:05
that Peter and other erasure and Peter's
24:07
comment about manufacturing of personal
24:10
data is dead on so people understand
24:13
that that's what AI is doing on a broad
24:16
basis across the board in our online
24:18
systems
24:20
and how that impacts their lives they're
24:23
basically running blind they're not in a
24:26
position to apply an informed consumer
24:29
or informed voter understanding of
24:31

what's going on
24:32
great Harlan would you like to add to
24:37
that well a couple of things yes
24:43
certainly the ethics are something that
24:44
we're dealing with in the computer
24:46
science curriculum as mandated of course
24:48
by abet accreditation and we we spend a
24:51
huge amount of time we make sure our
24:54
computer science students are at a level
24:56
high enough to really understand
24:59
computer science we typically teach this
25:01
at the junior senior level really
25:04
delving into the ethics the
25:06
ramifications of these technologies that
25:09
you are going to be helping voiced on
25:12
the world so certainly at that level
25:15
we're doing that somebody had raised the
25:17
issue of ethics before and of course
25:21
when we're dealing with ethics we're
25:22
talking about concepts like justice
25:25
non-male Thiessen's beneficence but one
25:29
of the key ones here is autonomy
25:31
autonomy of the individual in these
25:34
instances so one of the things we've
25:36

been focused on is really trying to say
25:39
all right so how can we enable
25:40
individuals much greater control over
25:43
their own information exposure and
25:47
what's the legal technological model
25:51
that would allow us to best enable that
25:54
and then we can start talking about
25:55
legal different legal paradigms whether
25:58
they're in the you know gdpr and Europe
26:00
UK Singapore the u.s. constitutional
26:04
system what are some solutions that we
26:06
can actually pursue right now and I
26:09
think if we get back to the kind of
26:11
basic ethical foundations they provide
26:14
us the Philosopher's actually provide us
26:17
with some very subjective direction for
26:20
us to move in for the engineering
26:23
software engineering community as as
26:25
well as the business community where we
26:27
need to be heading thank you let me uh
26:33
was this last question to all of you and
26:38
that's start with Peter is can you touch
26:44
upon ways in which data privacy laws and
26:50
standards are being upheld in
26:55

applications such as autonomous vehicles
26:59
and so on
27:02
great question the the the reality is
27:08
there really isn't any case law that's
27:11
developing in this area just yet and
27:14
there's a lot of self regulatory
27:16
approaches for example in the automotive
27:18
area you know there there's been for
27:22
quite some time now you know a self
27:24
regulatory approach to how to manage all
27:27
the data and how to find ways to provide
27:32
the right calibration with respect to
27:35
both security of that data as well as
27:38
the privacy implications of collecting
27:41
all that data about individuals most of
27:43
the most of the self regulatory
27:45
approaches most of the ways in which
27:47
regulators are thinking about this
27:49
globally really come down to the to the
27:54
tenants that are set forth by the FTC
27:58
you know the the transparency the notice
28:01
right the explained ability making sure
28:04
consumers are aware of what what
28:07
actually is being captured you know but
28:10

there are real challenges in the AI area
28:13
in terms of you know matching the AI
28:17
context to non AI contexts in which we
28:22
are familiar so mapping the FIPS for
28:25
example the Fair Information privacy
28:26
practices to AI it's not a complete
28:29
solution by any stretch
28:31
and I think regulators and consumers and
28:34
manufacturers of these the the users of
28:38
these AI technologies are realizing that
28:40
and building into their compliance
28:42
programs something that is
28:45
to the different governance frameworks
28:47
that are being developed thank you I'll
28:52
hand it off to my colleague Ali a baby
28:57
and he'll wrap up thank you very much I
29:02
mean I would like to thank all the
29:04
panelists today for the great
29:07
presentation and also my fellow
29:09
moderators for keeping us on time
29:11
also thanks everyone to all the
29:13
attendees today and with your very
29:15
thoughtful questions we'll make sure
29:17
that the unanswered questions will be
29:19

answered on our website and I would like
29:23
to thank office of the vice president
29:25
for research for hosting this webinar
29:26
dr. Cody back ramyon for his vision
29:29
behind this webinar also my colleagues
29:32
Tammy frosty and Helen Coxon on the
29:36
backend that were basically organizing
29:38
and coordinating all this so this
29:41
webinar was the tip of the iceberg we
29:44
try to barely a scratch different aspect
29:47
of a very broad area of AI and machine
29:50
learning in the fall we are hoping to
29:53
start a seminar series which will be
29:55
dedicated with one topic at a time with
29:57
more deaths so look for more
30:00
announcement and again thanks very much
30:02
for joining us and this will conclude
30:05
our webinar for today have a great day

*The University of Maine in Orono is the flagship campus of the University of Maine System, where efforts toward racial equity are ongoing, as is the commitment to facing a complicated and not always just institutional history. The University recognizes that it is located on Marsh Island in the homeland of the Penobscot nation, where issues of water and its territorial rights, and encroachment upon sacred sites, are ongoing. Penobscot homeland is connected to the other Wabanaki Tribal Nations — the Passamaquoddy, Maliseet, and Micmac — through kinship, alliances, and diplomacy. The university also recognizes that the Penobscot Nation and the other Wabanaki Tribal Nations are distinct, sovereign, legal and political entities with their own powers of self-governance and self-determination.*