9:15am – 10:00am

Digital futures: The impact of digital threats to democracy

Panel Organizer: Eloisa Martinez
Social Sciences and Humanities Research Council

Democratic Implications of Algorithmic Governance:

Elizabeth Judge
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Decision Making in Law

Justice	Equity
Laws	Morals
Predictability	Fairness
Rules	Standards
Deciding Before	Deciding After
Objectivity	Subjectivity
Equality / Arbitrary	Discretion / Discrimination

Algorithmic Governance

- Using software to regulate
  - Code is Law … Law is Code
- Automated decisionmaking

Examples

- Credit scores: predictions of responsible finance
- Adoption: predictions of “good” parenting
- Employment: automated screening of CVs: predictions of job fitness
- Price discrimination in e-commerce: predictions of likelihood to buy
- Insurance: predictions about risk
- Sentencing and Parole: predictions on recidivism
- Jury pool: predictions of neutrality

Algorithmic Governance

- Promise of both Rules *and* Individualization
  - Mitigating “risk” of human decisions: arbitrary, subjective
  - Optimistic: Akin to Personalized Medicine
- Peril of Rules (albeit finer ones) without Ethics
  - Removing the best of human decision making: mercy, flexibility, discretion
  - Pessimistic: Kafkaesque

Algorithms as Automated

- Automated Data Collection
- Algorithms for Data Inferences (which may or may not be accurate)
- Automated Decisions
- Code vs Humans
  - Information asymmetry between regulators and technology
  - Black box problem algorithms know more about people than people know about algorithms

Algorithms and Humans

- Human: objective setting
- Human: category setting (profiling)
- Human: coding algorithm
- Human: inferences
- Human: refining rules

Algorithmic Governance

Known-Knowns

- Data collection
- Algorithm used for data inferences
- Automated decisions
- Impact on transparency, accountability

Known-Unknowns

- Extent of data (per person)
- Type of inferences (categories)
- Precision and level of sophistication
- Accuracy of Inferences
- Effectiveness of Automated Regulation
- Democratic Implications
- How to design for fairness
- How to achieve transparency and efficiency

Unknown-Unknowns

- TBD

Algorithms and Law

- Who decides the algorithmic rules?
- What does transparency entail?
- Who is accountable?
- When is “objectivity” and “neutrality” not “fair”?
- Can more individualized categories be less ethical?
- How do you know what box you’ve been placed in and the consequences?
- How do you appeal the decision?
- What does a judge do when there is a case involving an algorithm?
- How do administrative processes for notice, public consultation, and appeal apply?
- Who has institutional competence to decide technologically driven processes?
- Whom does the public trust?

Democratic Implications of Algorithmic Governance

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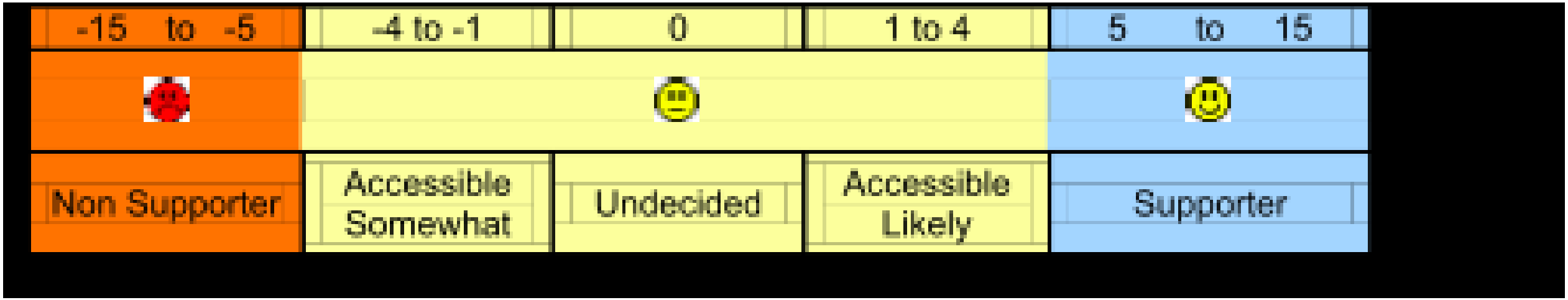
Future of Algorithmic Governance

- Fairness at design stage
- Disclosure and transparency of …?
- Public conversation whether newer technology is necessarily better (e.g. Face ID v Touch ID)
- Public conversation about what information should be known, considered, shared, analyzed

Algorithms and Elections



Algorithms and Elections

Algorithms and Elections

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Digital Futures: The Impacts of Digital Threats to Democracy

Barrie Kirk, P.Eng.
Executive Director, Canadian Automated Vehicles Centre of Excellence
November 9, 2018

Many Hats

- Executive Director, Canadian Automated Vehicles Centre of Excellence (CAVCOE)
- President, Canadian Automated Vehicles Institute (CAVI)
- Board Member, Unmanned Systems Canada
- Member, TC / ISED CV/AV Advisory Group
- Member, Sheridan College Automotive Advisory Board
- Member, Canadian Advisory Committee for ISO TC204
- Past President, Kanata-Nepean Bicycle Club

GM to start mass production in 2019

Impacts of AVs #1

- Sophisticated roaming sensor platforms
- Surveillance of AV occupants and people who are walking, biking, or sitting in a coffee shop
- Mobile non-passenger AVs with cameras and microphones have already been developed for security purposes
- Facial recognition systems: advanced and getting even better.
- Large-scale surveillance of the population will change behaviour and impact free speech.

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The Perfect Police State

Photo: The New York Times

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Impacts of AVs #2

- AVs / driverless taxis will improve mobility for the elderly and the handicapped
- Will allow them to be more engaged in everything -- including politics and voting

Impacts of AVs #3

- Disruptive technologies like AVs will erode our trust in government
  - Big impact on democracy
  - Excellent op-ed by Kevin Lynch in G&M
- 7 reasons why governments cannot manage disruptive technologies:
  - Pace of technological change
  - Scope of technological change
  - Risk culture vs risk adverse
  - Few borders
  - Platform-based / near zero marginal costs
  - Trial and error vs impact of uncertainty on government policy
  - Disruption by interactive social-media platforms with enormous scale

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Impacts of AVs #3

- The Government of Canada needs to do a better job of planning for AVs, other disruptive technologies
  - One option is to use QUANGOs
  - Get ahead of the curve
  - Restore trust in government

Follow-up

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- www.cavcoe.com
  - Latest issue of ***AV Update***, a **free** monthly newsletter with news on AVs from around the world
  - Subscription link