Artificial Intelligence and Privacy: Emerging Legal Issues and Ethical Principles

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Roadmap

I. Some AI Basics
II. U.S. Laws and Regulatory Expectations
III. EU Laws and Regulatory Expectations
IV. Ethical Principles and Industry Initiatives
V. Some Key Takeaways

SOME ARTIFICIAL INTELLIGENCE BASICS

What is AI? Some Key Concepts

- **Strong AI (or "artificial general intelligence")**: a replication of broad human cognitive function, an artificial human brain
  - *E.g.* HAL 9000, Blade Runner "replicants," Westworld "hosts"

- **Weak AI (or "narrow artificial intelligence")/Automated Decision-making**: algorithms capable of accomplishing particular cognitive tasks

- **Machine Learning**: algorithms capable of improving their performance through an iterative process of deriving correlations or decision rules through examination of data sets

What is AI? Some Key Concepts

- **Some applications:**
  - hiring decisions
  - targeted advertising
  - self-driving vehicles
  - image recognition/medical diagnosis
  - fraud detection
  - cybersecurity
  - autonomous weapons systems
  - criminal sentencing

- **Growth and Impact:**
  - A “fourth industrial revolution”?
  - One study predicts the AI market will grow to $38.6 billion in the next 10 years, up from $644 million in 2016 (InsideSales.com)
  - AI could boost profitability globally by as much as 38 percent by 2035 (Accenture)

U.S. LAWS AND REGULATORY EXPECTATIONS

FTC Big Data Report (2016)

- "Big Data: A Tool for Inclusion or Exclusion?" (2016): addresses commercial uses of big data and focuses on the impact on low-income and underserved populations

- FTC cautioned that specific laws apply to using big data analytics (and, by extension, AI):

  - FCRA: eligibility decisions concerning credit, employment, insurance, housing
  - Equal opportunity laws: ECOA, ADEA, FHA
  - FTC Act Section 5: unfair or deceptive acts or practices

Fair Credit Reporting Act,15 U.S.C. § 1681

- FCRA regulates the practices of "**consumer reporting agencies**" (CRAs): organizations that collect information for use by employers, insurance companies, lenders, landlords, and other entities in making eligibility decisions
- Companies that use AI to **assemble or evaluate** information on consumers for the purpose of helping other companies make employment, housing, insurance, or credit determinations *may* qualify as CRAs
- Among other things, CRAs must:
  - Take reasonable steps to ensure report users have "permissible purpose"
  - Take reasonable steps to ensure maximum possible accuracy of report info
  - Provide consumers with access to their information and the ability to correct any errors

Equal Credit Opportunity Act,15 U.S.C. § 1691 et seq.

- ECOA prohibits **credit discrimination on the basis** of race, color, religion, national origin, sex, marital status, age, or because a person receives public assistance
- To prove a violation of ECOA, plaintiffs must show either "**disparate treatment**" or "**disparate impact**," which occurs when a creditor treats an applicant differently (*e.g.*, refusal to grant credit or offer of less favorable terms) based on a protected characteristic
  - **Facially neutral policies or practices** that have a disproportionate adverse effect on a protected class may still qualify as causing a prohibited disparate impact, unless those practices or policies further a legitimate business need that cannot reasonably be achieved by means that are less disparate in their impact
- In 2017, the Consumer Financial Protection Bureau (CFPB) launched an inquiry into the use of alternative data and emerging technologies (including machine learning) for underwriting and issued a no-action letter to Upstart Network, Inc.

FTC Act Section 5

epic.org

Electronic Privacy Information Center
1718 Connecticut Avenue NW, Suite 200
Washington, DC 20009, USA

May 22, 2018

Chairman Joseph Simons and FTC Commissioners
Federal Trade Commission
600 Pennsylvania Ave., N.W.
Washington, D.C. 20580

Re: *In the Matter of Universal Tennis, LLC*

Dear Chairman Simons and Members of the Commission:

We write to you regarding the enclosed Complaint concerning unfair and deceptive business practices by Universal Tennis, LLC, originally filed with the Federal Trade Commission by the Electronic Privacy Information Center ("EPIC") on May 17, 2017. Today, EPIC renews our request that the Commission act on this urgent matter.

As set forth in the EPIC Complaint, Universal Tennis uses a secret, proprietary algorithm to score young tennis players, some of whom are children under 13. Players are unable to determine how their ratings are derived or challenge their accuracy. Players cannot opt out of this rating system or prevent Universal Tennis from publishing their scores online. The UTR score determines the future for young tennis players; it impacts opportunities for scholarship, education and employment. Universal Tennis has continued these practices since EPIC filed this Complaint with the Commission a year ago.

Universal Tennis's use of a secret, proprietary algorithm to score young athletes is unfair and deceptive in violation of Section 5 of the FTC Act, contrary to the open and non-proprietary traditions for evaluating athletes of all ages, and also violates the Children's Online Privacy Protection Act. EPIC respectfully urges the Commission to investigate Universal Tennis, enjoin these practices, and protect the privacy of young athletes.

Thank you for your consideration of this request. We look forward to working with you on this and other important issues.

Sincerely,

Marc Rotenberg
Marc Rotenberg
EPIC President

Sam Lester
Sam Lester
EPIC Consumer Privacy Counsel

- EPIC complaint and request for investigation: Universal Tennis Rating (UTR)
- UTR collects a wide array of information on players and creates ranking scores for them based on a confidential algorithm.
- A trade practice is unfair if it “causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”
- EPIC alleges that (i) "the use of a secret algorithm to score children creates a substantial risk of harm because children’s development, educational, scholarship, and employment opportunities may be unfairly hindered by low and inaccurate scores, the calculation of which is secret and the validity of which parents are not permitted to dispute"; (ii) "this injury cannot be reasonably avoided because parents are not allowed to opt out of UTR scoring"; and (iii) "the harms from the use of this secret algorithm are not outweighed by countervailing benefits to consumers or to competition" because open ranking systems exist that could provide just as much benefit.

Recent and Upcoming FTC Workshops and Hearings

- FTC Hearings on Competition and Consumer Protection in the 21st Century (September 2018 - January 2019) examining whether emerging technologies require adjustments to consumer protection law, enforcement priorities, and policy
  - Sought public comment on many issues, including "**consumer welfare implications associated with the use of algorithmic decision tools, artificial intelligence, and predictive analytics**"
  - More than two dozen comments received; some common themes:
    - Transparency: algorithms and data sets
    - Auditing for bias, accuracy
    - Explanations for decision-making processes with significant consumer impacts
  - Hearing Nov. 13-14, 2018: Algorithms, Artificial Intelligence, and Predictive Analytics

- FinTech Forum: Artificial Intelligence and Blockchain (2017)
  - Benefits: more accessible financial services, better decision-making tools, personalized assistance
  - Challenges: potential bias from profiling, especially in areas such as credit decisions

Federal and State Legislative Action on AI

- **Federal legislative developments**
  - U.S. Senate Subcommittee on Communications, Technology, Innovation, and the Internet's hearing on "**Machine Learning and Artificial Intelligence**" (December 2017)
  - U.S. House of Representatives Subcommittee on Science, Space and Technology's hearing, "**Artificial Intelligence – With Great Power Comes Great Responsibility**" (June 2018): potential labor displacement, public-private cooperation, potential imminence of artificial general intelligence
  - Various bills introduced to form committees to investigate and recommend legislation on artificial intelligence (*e.g.*, H.R. 4625 (FUTURE of Artificial Intelligence Act of 2017); H.R. 5356 (National Security Commission on Artificial Intelligence Act of 2018); H.R. 4829 (AI Jobs Act of 2018))
- **State legislative developments**
  - Vermont encacted H.B. 378 in 2018, creating a task force to study AI and potential regulation; NY, PA, and VA have bills in committee creating similar exploratory bodies
  - California recently passed resolution ACR-215 expressing support for the "23 Asilomar AI Principles"
- **New York City** Automated Decision System Task Force (Jan. 2018)

EU LAWS AND REGULATORY EXPECTATIONS

Legal Landscape in the European Union

- The General Data Protection Regulation (GDPR) provides a general framework for processing personal data and expressly addresses automated decision-making and profiling
- Government bodies and regulators in the European Union have explored AI issues and released preliminary guidance

GDPR: Article 5: General Principles for Processing

- **Lawfulness, fairness, and transparency**—Art. 5(1)(a)
  - *E.g.*, algorithms should not create or perpetuate bias or discrimination
- **Purpose limitation**— Art. 5(1)(b)
  - *E.g.*, secondary uses should be "compatible" with primary purpose (*but see* exception for statistical purposes)
- **Data minimization and storage limitation**— Art. 5(1)(c) and (e)
  - *E.g.*, use methods that reduce personal data required and anonymize/pseudonymize data where possible
- **Accuracy**— Art. 5(1)(d)
  - *E.g.*, datasets should be representative and algorithms should produce accurate results
- **Integrity and confidentiality**— Art. 5(1)(f)
- **Accountability**— Art. 5(2)
  - *E.g.*, algorithm design should allow company to demonstrate compliance with substantive principles

GDPR: Article 22

- Article 22 of the GDPR expressly addresses automated decision-making and profiling:
  - "The data subject shall have the **right not to be subject to a decision** based **solely** on **automated processing**, including profiling, which **produces legal effects** concerning him or her **or similarly significantly affects** him or her."
- Limited exceptions to Article 22's general prohibition where the decision is:
  - Based on the data subject's explicit consent
  - Necessary for entering into, or performance of, a contract between the data subject and the controller
  - Authorized by EU or Member State law (a substantial number of EU Member States have passed national legislation with additional specifics regarding Art. 22(2)(b) GDPR)

GDPR: WP29/EDPB Guidance

ARTICLE 29 DATA PROTECTION WORKING PARTY

17/EN
WP251rev.01

Guidelines on Automated individual decision-making and Profiling for the purposes of Regulation 2016/679

Adopted on 3 October 2017
As last Revised and Adopted on 6 February 2018

- When is a decision "**based solely**" on automated processing?
  - "[I]f someone **routinely applies automatically generated profiles** to individuals **without any actual influence on the result**, this would still be a decision based solely on automated processing."
  - "As part of their DPIA, the controller should **identify and record the degree of any human involvement** in the decision-making process and at what stage this takes place."
  - "To qualify as human involvement, the controller must **ensure that any oversight of the decision is meaningful**, rather than just a token gesture. It should be carried out by someone who has the **authority and competence to change the decision**."
- What are "**legal**" or "**similarly significant**" effects?
  - Legal: The decision affects legal rights, legal status, or rights under a contract
  - Similarly significant: The decision significantly affects circumstances, behavior, or choices of the individual, has prolonged or permanent impact, or leads to exclusion or discrimination

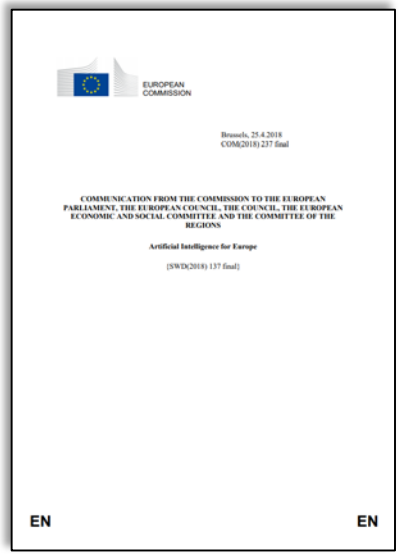
GDPR: Article 22(3)

- Under Article 22, data controllers must implement "**suitable measures**" to safeguard the data subject's rights, freedoms, and interests, including the individual's rights to:
  - Obtain human intervention
  - Express his or her point of view
  - Contest decision
  - (And receive explanation of the decision? *See* Recital 71 and Articles 13-15)
- Article 29 Working Party recommendations for safeguards include:
  - Regular quality assurance checks and **algorithmic auditing**
  - **Contractual assurances** that auditing and testing have been carried out
  - Clear **retention periods** for profiles and personal data
  - Using **anonymization or pseudonymization** techniques
  - A mechanism for **human intervention** in defined cases
  - **Ethics review boards**

GDPR: Articles 13, 14, and 15

- Articles 13(2)(f), 14(2)(g), and 15(1)(h) require data controllers to provide **notice** to data subjects regarding:
  - The **existence of automated decision-making**, including profiling, referred to in Article 22(1) and (4)
  - Meaningful information about the **logic involved**
  - The **significance and the envisaged consequences** of such processing for the data subject
- What constitutes "meaningful information about the logic involved" and "envisaged consequences" of the processing?
  - **Rationale** behind the decision
  - **Criteria relied upon** and factors taken into account
  - **Real-world examples** that illustrate potential effects (*e.g.*, impact of driving habits on insurance)
  - Other information necessary to reduce consumer "surprise"
  - But **not** necessarily a complex explanation of the algorithms used or disclosure of the full algorithm

Other European Guidance and Developments


EUROPEAN COMMISSION

Brussels, 25.4.2018
COM(2018) 237 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Artificial Intelligence for Europe

[SWD(2018) 137 final]

EN EN

- **European Data Protection Supervisor (EDPS) recently opened a public consultation on whether a "digital ethics" framework** is necessary to address technological developments such as robotics and AI (comments were due by July 15, 2018) and published an earlier report on AI and privacy in 2016
- **European Commission intends to develop draft AI ethics guidelines** by end of 2018 that will take into account the EU Charter of Fundamental Rights and address issues such as fairness, privacy, dignity, consumer protection, and non-discrimination
- **EU Commissioner for Competition seeking input on a conference panel** titled "Competition, Data, Privacy, and AI" by September 30, 2018
- **Individual EU national data protection authorities have issued guidance on AI**:
  - UK ICO (Sept. 2017)
  - French CNIL (Dec. 2017)
  - Norwegian DPA (Jan. 2018)

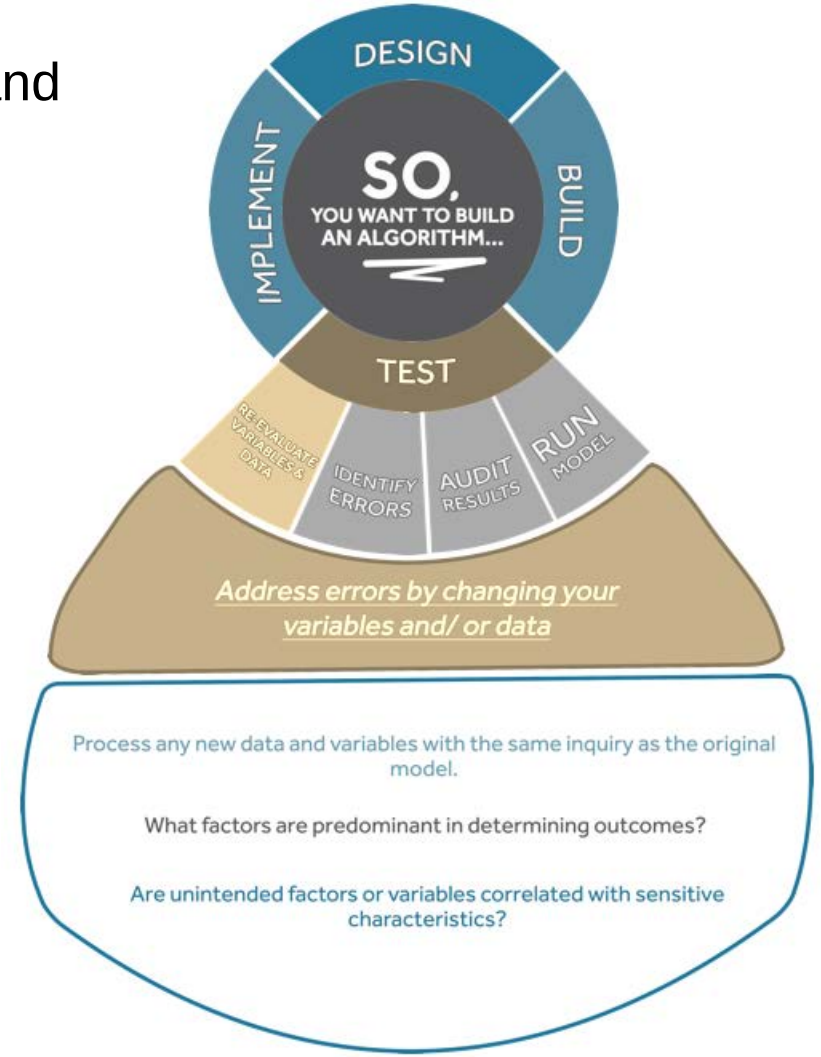
Some Principles Emerging from EU Guidance

- **Increase transparency and explainability**
  - Build solutions that explain how systems process data and how they reach their conclusions (Norwegian DPA)
  - Create visualization tools to improve consumer comprehension (CNIL, ICO)
  - Increase training for developers and users of AI (CNIL)
- **Establish auditing and governance procedures**
  - Ethical principles (ICO) and ethics review boards (ICO, CNIL)
  - Internal or third-party auditing (ICO, CNIL, Norwegian DPA) or government audits (CNIL)
  - Certifications (CNIL)
- **Implement privacy by design**
  - Conduct DPIAs and use data minimization and anonymization methods (ICO, Norwegian DPA)

ETHICAL PRINCIPLES AND INDUSTRY INITIATIVES

Proposed AI Ethical Principles and Frameworks

- Various stakeholders have issued ethical principles for AI and big data
- The Center for Democracy & Technology (CDT) distilled common principles in its "Digital Decisions" guidance:
  - Fairness
  - Explainability
  - Auditability
  - Reliability
- CDT also designed a tool to help companies create and deploy algorithms in a responsible manner



Proposed AI Ethical Principles and Frameworks

- The Future of Privacy Forum (FPF) and Immuta recently issued a White Paper: "Beyond Explainability: A Practical Guide to Managing Risk in Machine Learning Models"

- The White Paper proposes a framework for managing risks in AI systems:
  - Clearly **document** initial objectives, underlying assumptions, and tradeoffs
  - Establish a **review process** with clearly defined roles and responsibilities
  - Conduct effective **risk management of the underlying data**
  - Use output data to **expose issues and risks**
  - **Replace or remove** models from production when necessary

- FPF also has convened an AI and Machine Learning Working Group to discuss privacy issues and challenges and develop a set of best practices

Industry initiatives: Development of AI Principles

- **Partnership on AI**, a multi-stakeholder organization founded by several technology companies, is working to increase public awareness and develop best practices for fair, transparent, and accountable AI, as well as applying AI in safety-critical areas

PARTNERSHIP ON AI

- **Individual technology companies** have published their own publicly-available AI principles
  - Google
  - Microsoft
  - IBM
  - Axon

- **The Software and Information Industry Association** (SIIA) issued "Ethical Principles for Artificial Intelligence and Data Analytics" in late 2017
  - Includes specific principles for disparate impact assessment

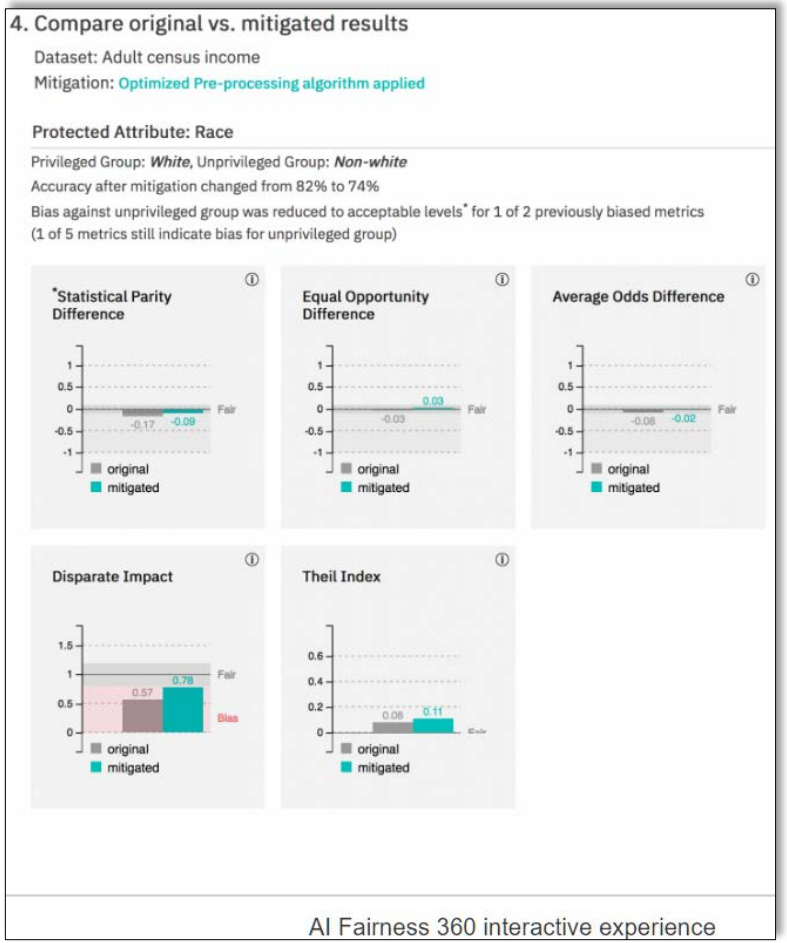
Industry Initiatives: Ethics Boards

- Some companies have established **ethics boards, committees, or research groups** to explore the ethical and real-world impacts of AI

- For example:
  - Google established an internal AI ethics board in 2014 and its DeepMind unit created a research group to explore the real-world impacts of AI
  - Microsoft established an internal AI ethics board in 2016 and a research group focusing on the social implications of AI (FATE: Fairness, Accountability, Transparency, and Ethics in AI)
  - Axon established an external advisory board in 2018 composed of experts on AI, computer science, privacy, law enforcement, civil liberties, and public policy

Industry Initiatives: AI Tools to Detect Bias

- Companies also have developed **tools to help detect algorithmic bias**
  - IBM's AI Fairness 360 tool enables developers and end users of AI to check for unwanted bias in datasets and machine learning models and mitigate such bias
  - Google's What-If Tool helps analyze machine-learning models for bias, including by detecting misclassifications and investigating model performance across different subgroups
  - Facebook's Fairness Flow tool allows FB developers to measure algorithms for bias
  - Microsoft is developing a tool to automatically identify bias in a range of AI algorithms



AI Fairness 360 interactive experience

SOME KEY TAKEAWAYS

Some Key Takeaways

1. Establish policies governing the company's development, use, and/or sale of AI and AI-reliant products, taking into account both legal requirements and ethical considerations
2. Design and implement algorithms in a manner that will allow internal and external stakeholders to understand how and why automated decisions are made
3. Assess algorithms and data for bias: before, during, and after
4. Consider what governance structures are appropriate. For example:
   - Establish a legal/ethics review board? If so, how structured?
   - Internal or third-party audits?
5. Use contractual provisions that allocate responsibilities between customer and vendor (*e.g.*, restrictions on how customers may use AI products) and conduct reasonable due diligence and oversight of customers or vendors
6. Determine how to provide notice and choices to consumers where appropriate

Questions?

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