Egaleco
Advancing Fairness in Machine Learning

Product & Policy Team
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AI in Healthcare can create disparate impacts.
How will **YOU** build algorithms that don't perpetuate or amplify historical biases?
Fairness Audit

- Several dozen fairness metrics
- Impossible to satisfy them all
- But before all that... how do we even define fairness?
Inspired by the needs and habits of ML practitioners and fairness experts.
Egaleco

- Contextualize Fairness
- Visualize disparities and generate a Fairness Report
- Resources for Fair ML
Interdisciplinary Collaboration
● Fairness goes beyond math

● Tooling is not a panacea

● Legal fairness: **anti-discrimination** approach
  ○ Compliance ≠ holistic fairness
  ○ Procedural fairness can obscure harms of “neutral” systems

● Social fairness: considers **context and impact**
  ○ Promotes system **transparency and explainability**
  ○ Problematizes rigid classification
- Practitioners need support operationalizing fairness
- Resources to **distribute ownership**
- common vocabulary & **existing resources**
- Start projects with “**responsibility sprints**”
- **Interdisciplinary, interative approach**
<table>
<thead>
<tr>
<th>Legal and Ethical Frameworks Relevant to Healthcare AI</th>
<th>Enforcement of protecting entity</th>
<th>Notes</th>
<th>Jurisdiction</th>
<th>Effective date</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Consumer Privacy Act (as amended by the California Privacy Rights Act)</td>
<td>California Privacy Protection Agency - CA Attorney General</td>
<td>The CPAA is an amendment to the CCPA which includes language about “automated decision-making.” It mentions automated decision-making in the context of profiling and gives the CPAA Privacy Protection Agency the ability to enforce and make rules regarding automated decision-making in the future. Note that data covered under HIPAA is not covered by CPAA or CCPA. This act could impact healthcare organizations and businesses that are covered by the CCPA, and that the CPAA is still being finalized.</td>
<td>California</td>
<td>1/1/2022</td>
<td><a href="https://www.ca.gov">https://www.ca.gov</a></td>
</tr>
<tr>
<td>Confidentiality of Medical Information Act (CMIA)</td>
<td>California Attorney General’s Offices</td>
<td>Protects patient record confidentiality. Prohibits health care providers from disclosing medical information without first obtaining consent, and requires covered health care providers that create, maintain, store or destroy medical information in a manner that preserves the confidentiality.</td>
<td>California</td>
<td>1/1/2009</td>
<td><a href="https://legislature.ca.gov">https://legislature.ca.gov</a></td>
</tr>
<tr>
<td>Genetic Information Non-Discrimination Act (GINA)</td>
<td>National Institute on Disability, Independent Living, and Rehabilitation Research</td>
<td>Prohibits discrimination to health insurers and employers based on an individual’s genetic information. Makes it unlawful for a health insurer to discriminate on the basis of genetic information, including family history, and provides for non-discrimination in the workplace.</td>
<td>USA</td>
<td>11/31/2008</td>
<td><a href="https://ocr.hhs.gov">https://ocr.hhs.gov</a></td>
</tr>
<tr>
<td>Health Information Technology for Economic and Clinical Health Act (HITECH Act)</td>
<td>Department of Health and Human Services / Office for Civil Rights</td>
<td>Mandates audits of healthcare providers and data transfers to ensure compliance with HIPAA’s information privacy and security requirements.</td>
<td>USA</td>
<td>2/16/2009</td>
<td><a href="https://hhs.gov">https://hhs.gov</a></td>
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Conclusion

Egaleco, a novel approach to:

- Context specific guidance for Healthcare
- A new system of ranking fairness metrics
- Policy and Ethics resources
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Thank you

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