

Privacy and Bias Considerations of Predictive Models



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“Victims of Our Own Success”

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Sometimes, algorithms discriminate by working *too* well

- Disparate Impact
- Price Optimization
- Consumer Interactions

Disparate Impact

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“Disparate Impact” is a term of art in Employment and Housing Law

- An action that is otherwise lawful may violate anti-discrimination statutes, if it has a “disproportionately adverse effect” on members of a protected class
 - Each statute identifies the classes that will be protected
 - ✦ *E.g.*, racial or religious minorities

Disparate Impact

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An **algorithm** can have a disparate impact, if it is **accurate**, but it nevertheless results in disproportionate harm to an identifiable group

- Higher prices or denial of health coverage for consumers with pre-existing conditions
- Higher costs of home or auto ownership for residents of low-income neighborhoods

Disparate Impact

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Disparate impact of an algorithm can result in government intervention

- Discrimination based on pre-existing conditions is prohibited for employer-based health plans and plans under the ACA
- A small number of plaintiffs have sued property insurers under a disparate impact theory
 - HUD's Discriminatory Effects Rule
 - "Risk discrimination is not race discrimination"

Disparate Impact

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Will legislatures or regulators intervene in the property insurance market?

- Increased granularity can exacerbate disparate impact, even as it eliminates actual bias
- Could economic or social disadvantage become a “pre-existing condition”?

Price Optimization

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“Price optimization” is the practice of adjusting risk-based prices to further business objectives

- *E.g.*, Discounts to penetrate new markets
- Capping rate increases to preserve a customer base

Price Optimization

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Beginning in 2014, critics complained that insurers use predictive analytics to “optimize” prices based on the price elasticity of individual consumers

- “Unfair discrimination”—*i.e.*, charging different rates for equivalent risks—is unlawful in the US
- Risk pool optimization
 - Disproportionate impact on consumers with a low propensity to change carriers

Price Optimization

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Is price optimization legal? It's hard to say!

- 21 State Bulletins
 - Most say price optimization is unlawful
 - Definitions of “price optimization” vary
- “Sophisticated data analysis ... is not ... a violation of ... rating laws as long as the rating classifications and rating factors are cost-based.”

BUT

- “[P]ractices that adjust premiums, whether or not included in the insurer’s rating plan, are not allowed when the practice cannot be shown to be cost-based.”

-- Connecticut Bulletin PC-81

Interacting with Consumers

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Insurers often deal directly with individual consumers

- Sales and marketing
- Negotiating the settlement of claims

Interacting with Consumers

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What resources can insurers bring to consumer interactions?

- Allstate provides agents with third-party data about 300 million consumers
 - “When you call now, they’ll know you”
- Acxiom, a data broker, claimed to have “3,000 propensities for nearly every US consumer”

Interacting with Consumers

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What can insurers do with those resources?

- Kosinski et al., Proceedings of the National Academy of Sciences, 110.15 (2013):
“[B]asic digital records of human behavior can ... accurately estimate a wide range of personal attributes.”
- Alexander Nix, CEO of Cambridge Analytica, Nov. 9, 2016:
“Data-driven communications played ... an integral part in ... Donald Trump’s extraordinary win. It demonstrates the huge impact ... data science ... can have.”

Interacting with Consumers

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- Many states require insurers to offer certain types of coverage at the time a policy is purchased
 - *E.g.*, Uninsured Motorist Coverage
- The law requires a “**meaningful offer**”
 - *State Farm v. Wannamaker*, 354 S.E.2d 555 (S.C. 1987)
- If an agent uses personal data to make it more likely the customer will decline the offer, can the offer still be “meaningful”?

Interacting with Consumers

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What else can Big Data do?

- Praemonition, LLC provides “litigiousness ratings” for individual claims
 - SAS provides “litigation propensity scores”
- Picture It Settled, LLC, states that analytic models can “optimize signaling” in settlement negotiations
- Lexis/Nexis states that using analytics to evaluate claims can result in “25-49 percent lower attorney involvement” and “15-25 percent lower severity payments”

Interacting with Consumers

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An insurer's duty of good faith to first-party claimants requires it to make a settlement offer within the range of what is "reasonable"

- Does that duty allow an insurer to use personal data to persuade the claimant to accept an offer at the lowest end of the range?
 - Does it allow the insurer to use data to pre-empt attorney involvement?
 - Does it allow the insurer to exploit price elasticity?

A Parting Thought

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“The [insurer’s] obligations ... encompass qualities of decency and humanity.”

- -- *Foley v. Interactive Data Corp.*, 47 Cal.3d 654 (1988)