

Discrimination in Online Advertising: A Multidisciplinary Inquiry

Amit Datta (CMU), Anupam Datta (CMU),
Jael Makagon (UC Berkeley), Deirdre Mulligan (UC Berkeley),
Michael Tschantz (ICSI)

Prior study on discrimination detection

Employment related ads	Males receiving the ad	Females receiving the ad	Impressions to males	Impressions to females
\$200k+ Jobs - Execs Only careerchange.com	402/500	60/500	1816	311
Find Next \$200k+ Job careerchange.com	11/500	2/500	36	7

The Barrett Group

Section 704(b), Title VII of Civil Rights Act

- Unlawful “to print or publish or cause to be printed or published any ... advertisement relating to employment ... indicating any preference ... based on ... sex ...”

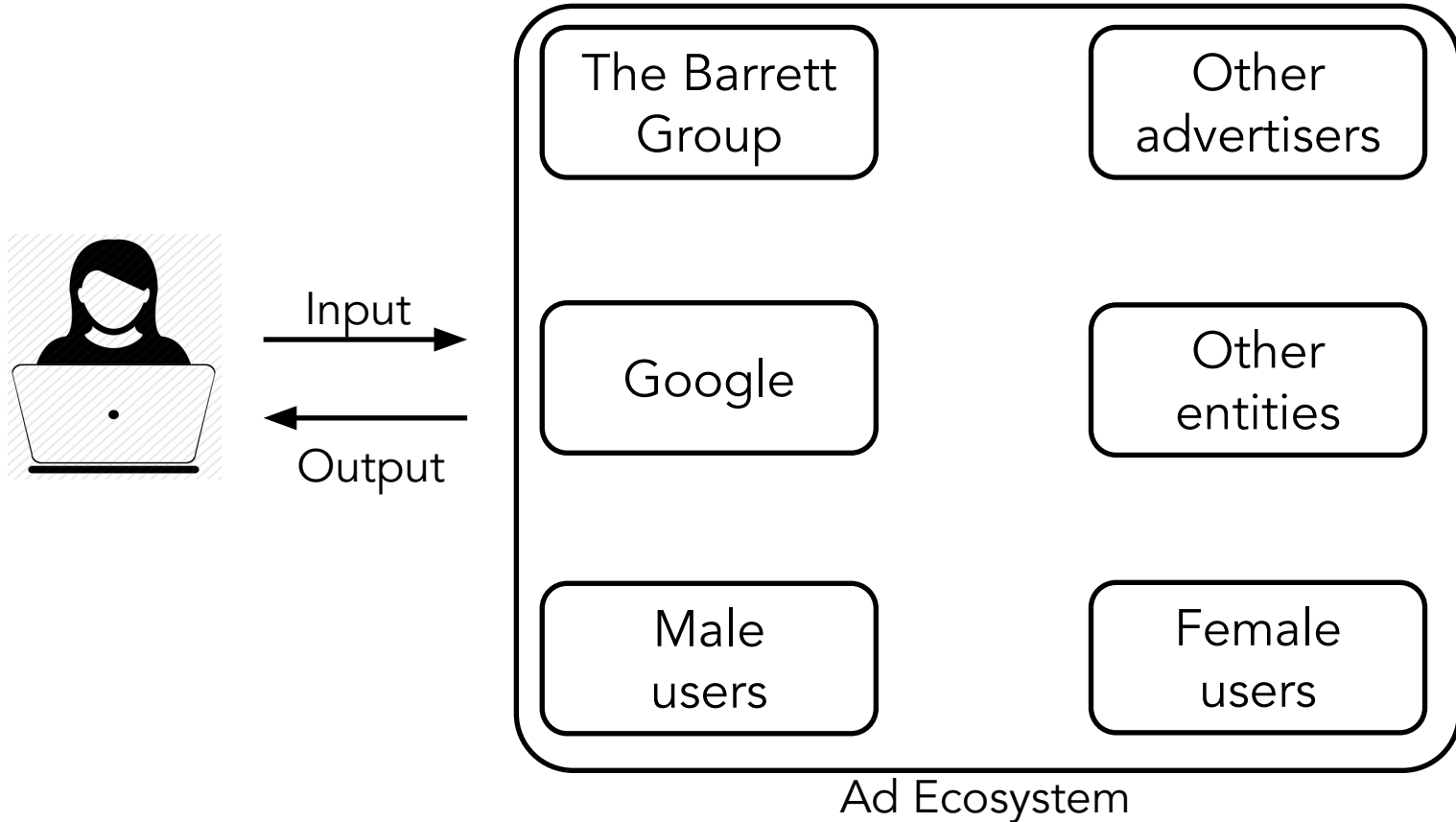
Classified ads in newspapers

350
HELP WANTED, MEN

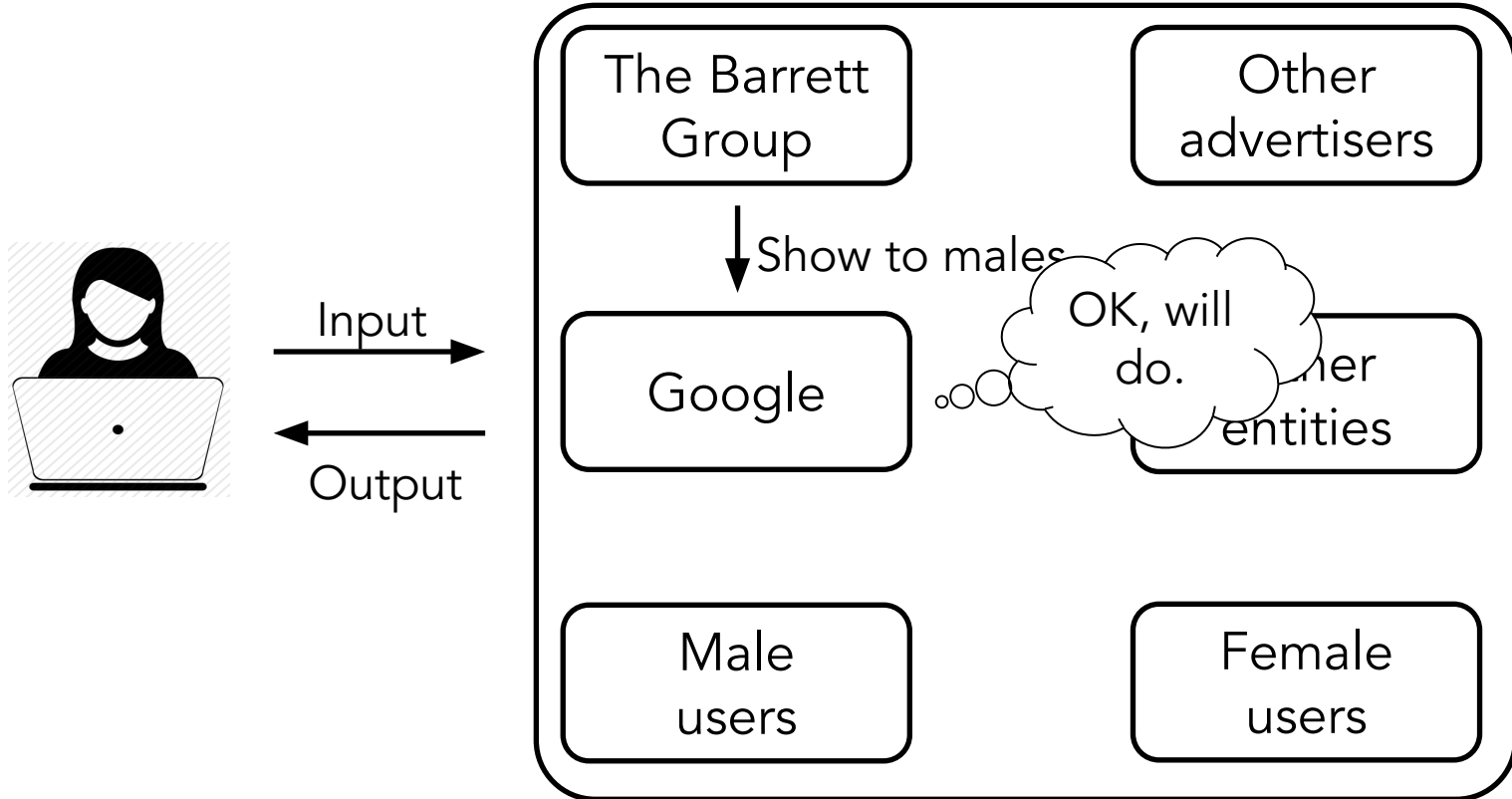
**ACCOUNTANT — CPA or CPA
candidate for small S.F. finan. dist.
CPA firm perm. Resume to this
paper AD No. 54081.¹**

Source: San Francisco Chronicle, Jan. 21,
1972

The ad ecosystem has many parties



Possible cause: direct advertiser targeting



Google allows targeting on gender

Choose how to target your ads

- Demographics
- Interests & remarketing (affinity audiences) – show ads to people based on their interests. [4 ideas](#)
- Use a different targeting method

Demographics [?](#)

GENDER <input type="checkbox"/> Male <input checked="" type="checkbox"/> Female <input type="checkbox"/> Unknown ?	AGE <input checked="" type="checkbox"/> 18-24 <input checked="" type="checkbox"/> 25-34 <input checked="" type="checkbox"/> 35-44 <input checked="" type="checkbox"/> 45-54 <input checked="" type="checkbox"/> 55-64 <input checked="" type="checkbox"/> 65 or more <input type="checkbox"/> Unknown ?	PARENTAL STATUS <input checked="" type="checkbox"/> Parent <input checked="" type="checkbox"/> Not a parent <input type="checkbox"/> Unknown ?
--	---	--

Reach a significantly wider audience by showing ads to people whose Age, Gender, and Parental status we do not know.

Sexist ad targeting

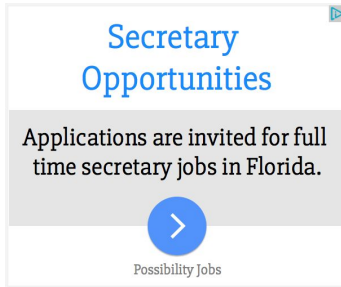
Targeted to females



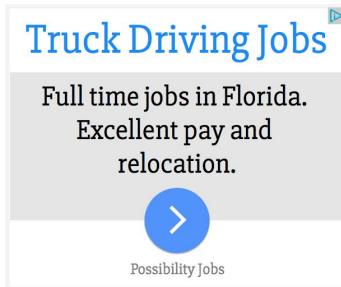
Targeted to males



Sexist ad delivery

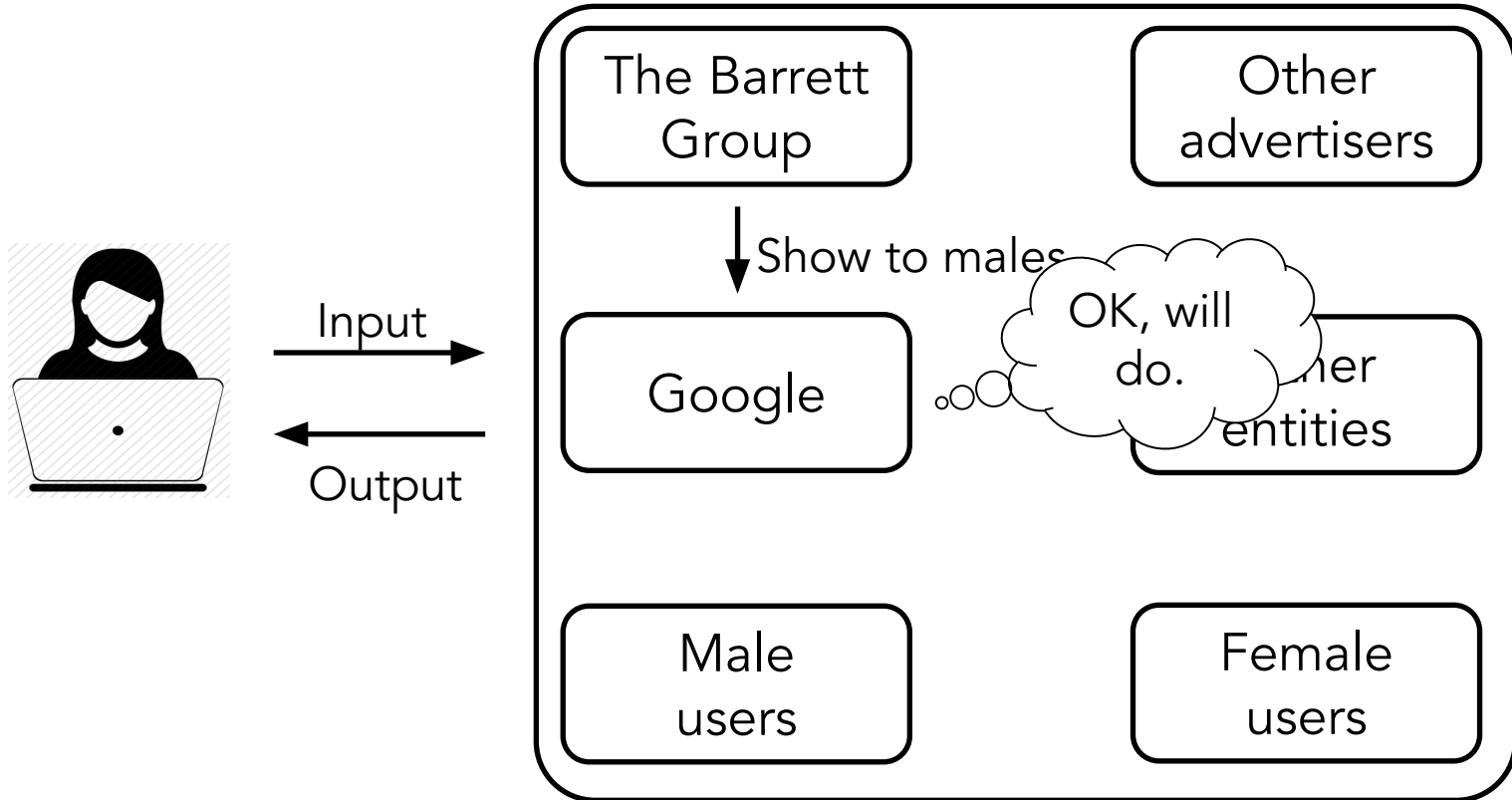


56,497 impressions, all to females



73,607 impressions, all to males

Possible cause: direct advertiser targeting



Applicability of 704(b)

Applies only to an

1. employer,
2. labor organization,
3. employment agency, or
4. joint labor-management committee

Analogous Statutes

Title VII (employment):

It shall be ... unlawful ... for an employer, labor organization, employment agency, or joint labor-management committee ... to ... publish ... any ... advertisement relating to employment ... indicating any preference, ... based on ... sex, ...

Title VIII (housing):

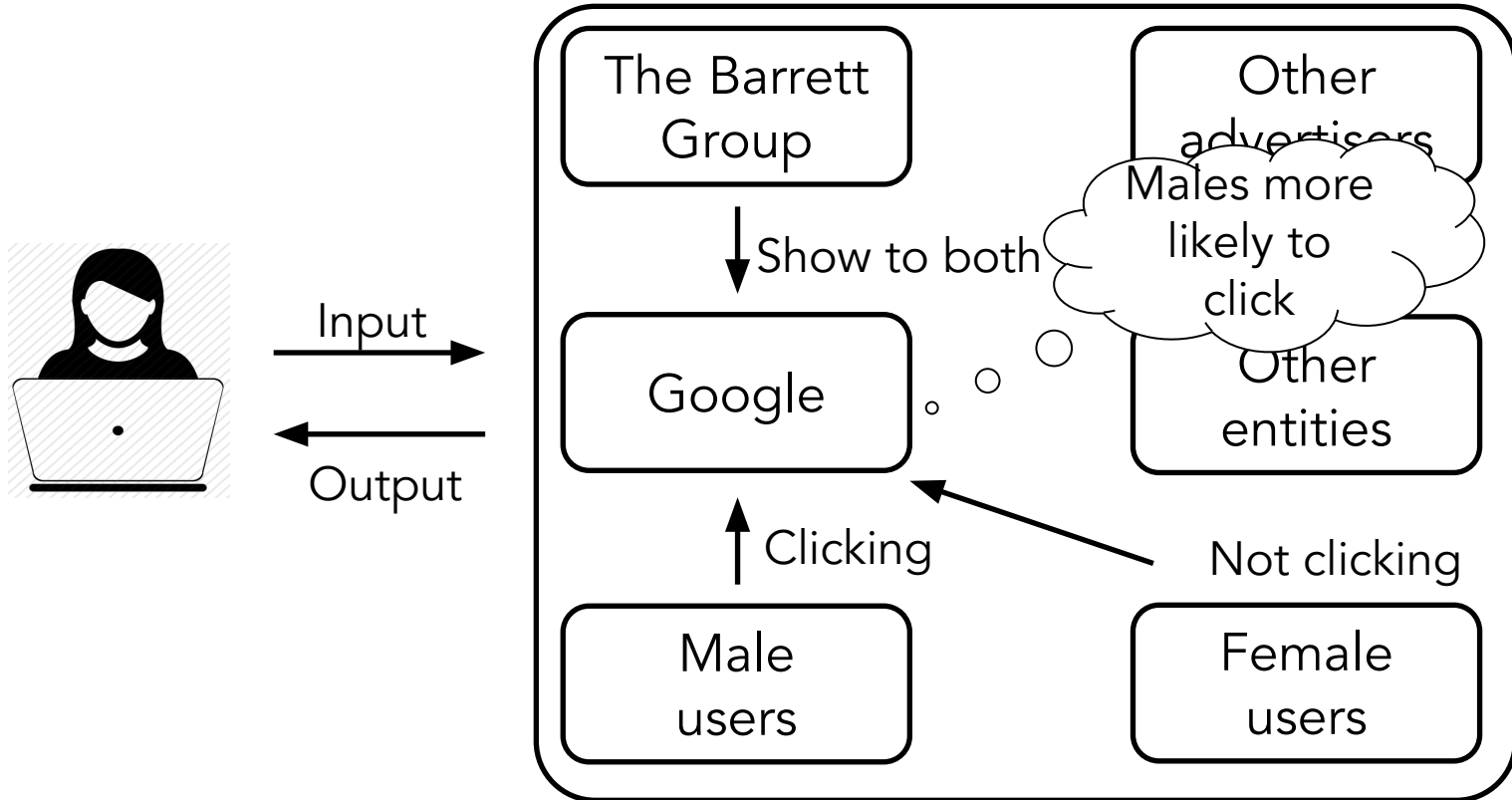
[l]t shall be unlawful ...

[t]o ... publish, ... any ... advertisement, with respect to the sale or rental of a dwelling that indicates any preference, ... based on ... sex, ...

Communications Decency Act § 230

- Law designed to protect companies that provide spaces for speech online
- Shields “interactive computer service” from liability for content created by others
- Protects these computer services when they provide “neutral tools” that are used by third parties to create content

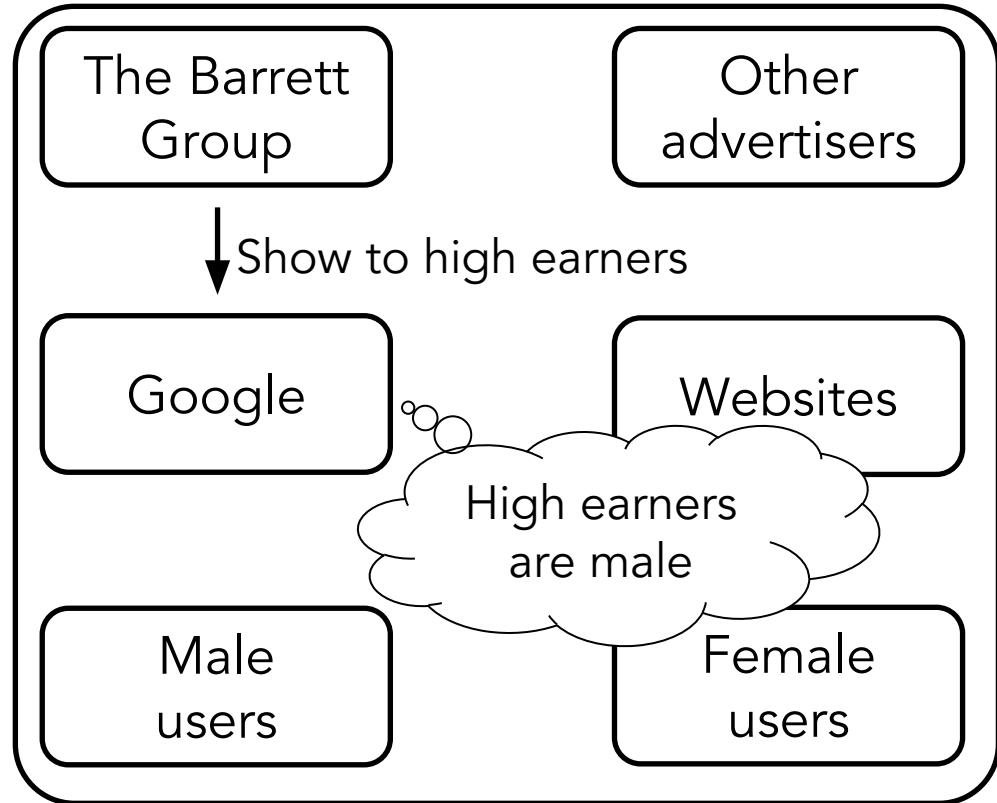
Possible cause: behavior of other users



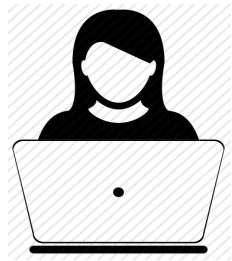
Possible cause: targeting a correlate



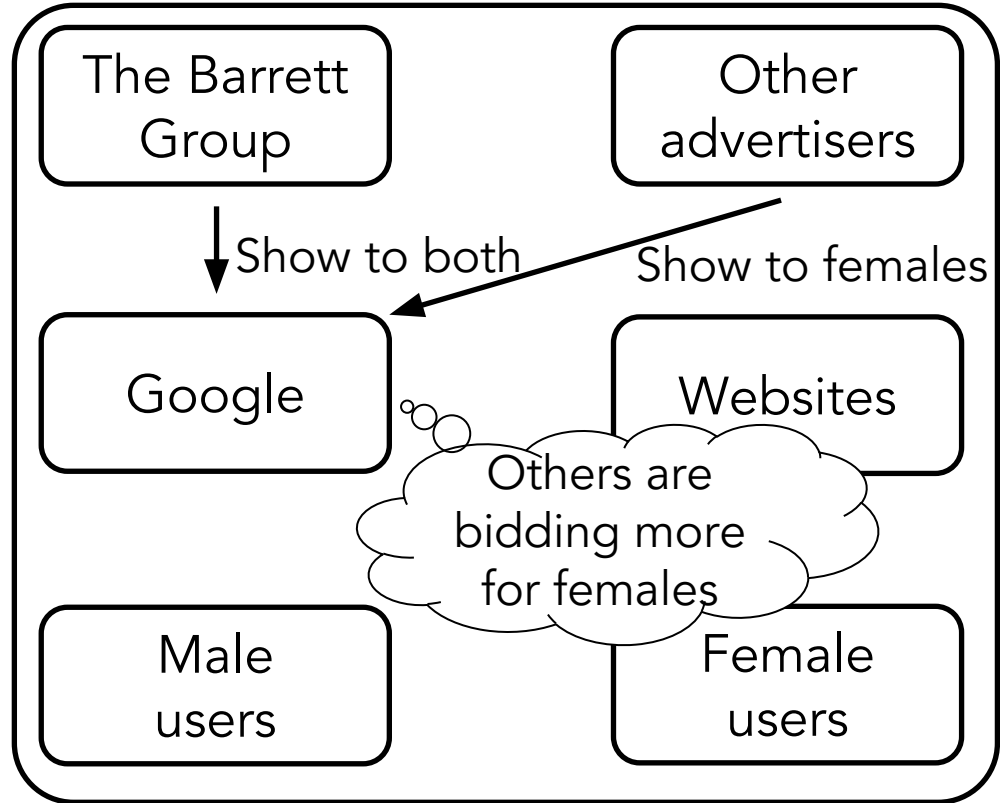
Input →
← Output



Possible cause: being outbid by others



Input →
← Output



Exceptions to CDA Section 230?

- Protection is not absolute
- “Information content providers”: Entities responsible, in whole or in part, for the creation or development of information

Exceptions to CDA Section 230? (cont'd)

- Fair Housing Council v. Roommates (9th Cir. 2008)
- Targeting of ads is itself discriminatory (even if the content of the ad on its face is not)
- Advertising platform is not a “neutral tool”

What's next

- Mismatch between responsibility and capability
- Policy changes
 - Revise Section 704(b) to make it applicable to all actors in the context of employment advertising
- Technological changes
 - Revise targeting algorithms based on work from FAT*

Discrimination in Online Advertising: A Multidisciplinary Inquiry

Amit Datta (CMU), Anupam Datta (CMU),
Jael Makagon (UC Berkeley), Deirdre Mulligan (UC Berkeley),
Michael Tschantz (ICSI)