

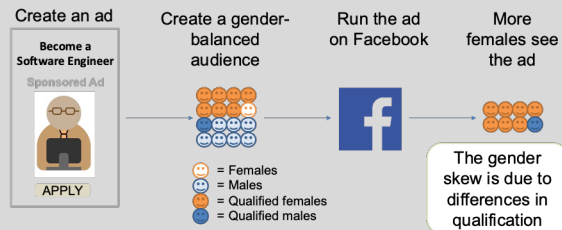


CAREER: Towards Privacy and Fairness in Multi-Sided Platforms

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Challenge:

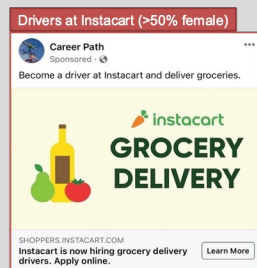
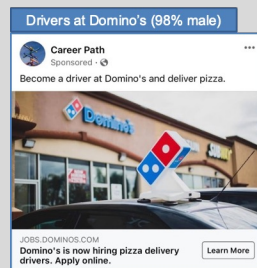
Distinguish between skew in job ad delivery justifiable by differences in qualification from discrimination due to job ad delivery algorithms perpetuating existing stereotypes.



Solution:

Find a pair of job positions with:

- Similar qualification requirements
- De facto gender skew in the real-world



- Run the pair of ads at the same time targeting the same audience
- If there's a relative difference in delivery by gender, conclude discrimination by ad delivery algorithm

Scientific Impact:

- New method for a black-box audit for discrimination in job ad delivery
- Study of job ad delivery on LinkedIn and Facebook
 - Show Facebook's ad delivery is discriminatory by gender
 - No evidence of discrimination on LinkedIn
- B. Imana, A. Korolova, J. Heidemann. Auditing for Discrimination in Algorithms Delivering Job Ads. WWW 2021. Runner-up for Best Student Paper Award. <https://ant.isi.edu/datasets/addelivery/>

Broader Impact:

- Presentations at Google, Brave, FTC PrivacyCon, Privacy Law Scholars Conference 2021.



Other Project Outputs:

- Z. Shen, L. Gelauff, A. Goel, A. Korolova, K. Munagala. Robust Allocations with Diversity Constraints. NeurIPS 2021.
- M. Ali, P. Sapiezynski, A. Korolova, A. Mislove, A. Rieke. Ad Delivery Algorithms: The Hidden Arbiters of Political Messaging. WSDM 2021.
- B. Imana, A. Korolova, J. Heidemann. Institutional privacy risks in sharing DNS data. ANRW 2021.
- B. Avent, Y. Dubey, A. Korolova. The Power of the Hybrid Model for Mean Estimation. PETS 2020.