

Where are the women? Mapping the gender job gap in AI

Women in Data Science and AI project

- Part of the Public Policy programme at The Alan Turing Institute
- Using research to inform concrete policy measures aimed at increasing the number of women in data science and AI

Prof. Judy Wajcman
PI

Dr. Erin Young
Postdoctoral Research Fellow

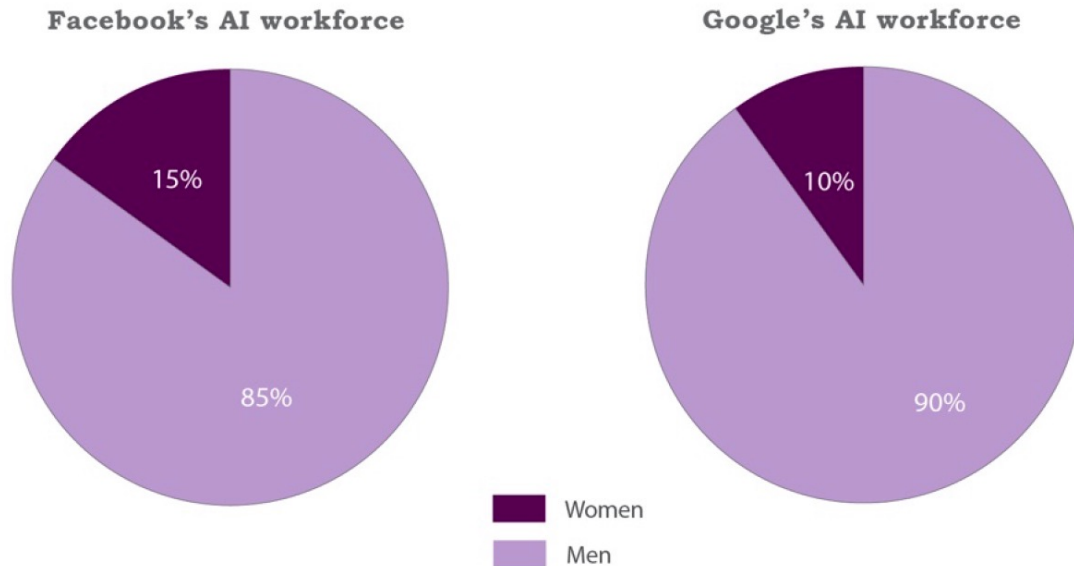
*DIGHUM: (Gender) Diversity and
Inclusion in Digital Humanism -
April 2021*

**The
Alan Turing
Institute**

The Turing is the UK's national institute for data science and AI



Women in AI: the existing numbers



Figures 3 and 4: Facebook's and Google's AI workforces, respectively. Sources: Company reported statistics, 2018 (see Simonite, 2018).

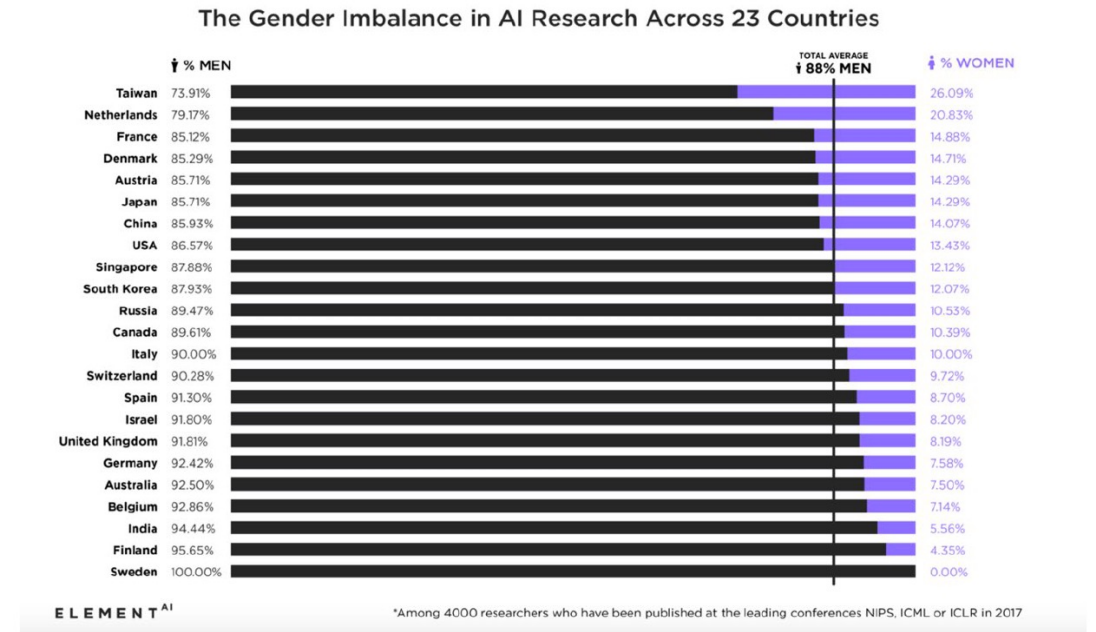


Figure 6: The Gender Imbalance in AI Research across 23 countries. Source: Estimating the Gender Ratio of AI Researchers Around the World (Mantha and Hudson, 2018).

Amazon ditched AI recruiting tool that favored men for technical jobs

Specialists had been building computer programs since 2014 to review résumés in an effort to automate the search process



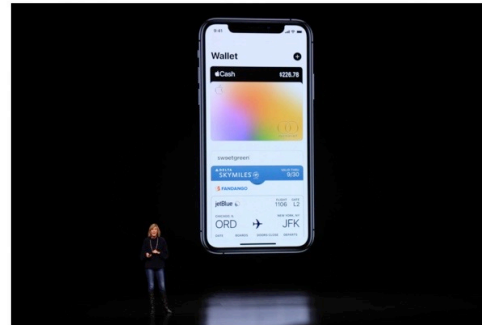
▲ Amazon's automated hiring tool was found to be inadequate after penalizing the résumés of female candidates. Photograph: Brian Snyder/Reuters

Amazon's machine-learning specialists uncovered a big problem: their new recruiting engine did not like women.

The New York Times

Apple Card Investigated After Gender Discrimination Complaints

A prominent software developer said on Twitter that the credit card was "sexist" against women applying for credit.



Jennifer Bailey, vice president of Apple Pay. Regulators are investigating Apple Card's algorithm, which is used to determine applicants' creditworthiness. Jim Wilson/The New York Times

TIME

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IDEAS • THE ART OF OPTIMISM

Artificial Intelligence Has a Problem With Gender and Racial Bias. Here's How to Solve It



IBM WATSON



AI Chatbot Shut Down After Learning to Talk Like a Racist Asshole

Imitating humans, the Korean chatbot Luda was found to be racist and homophobic.

By Junhyun Kwon
SEOUL, KR

By Hyeon Yoon
SEOUL, KR

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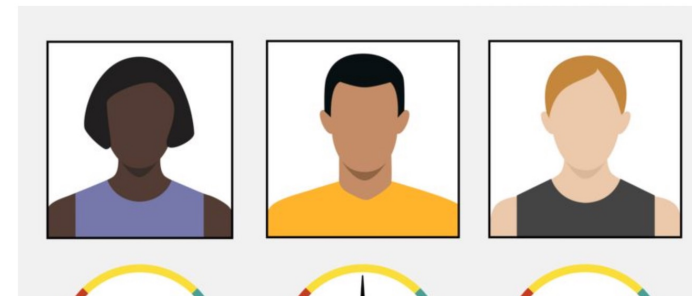
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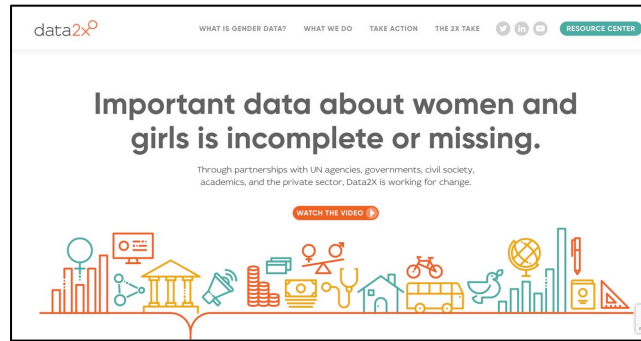
UK passport photo checker shows bias against dark-skinned women

By Maryam Ahmed
BBC News

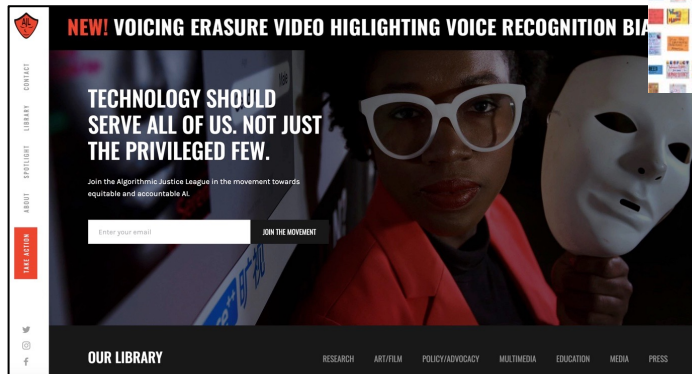
7 October



Research and activism

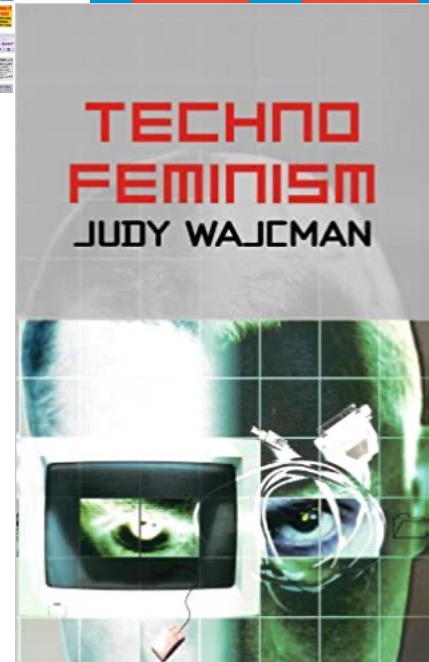
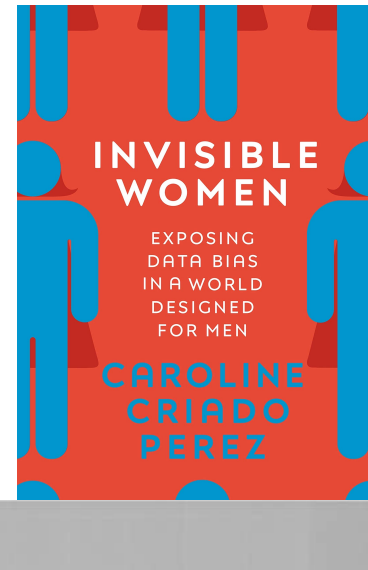
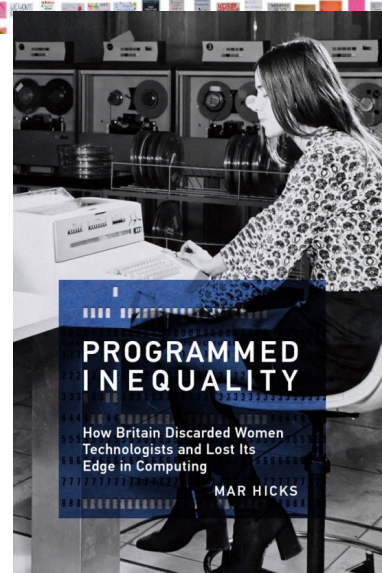
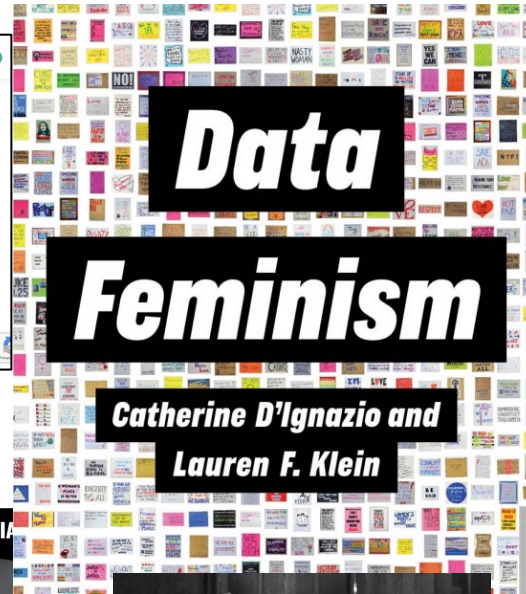


Data2x

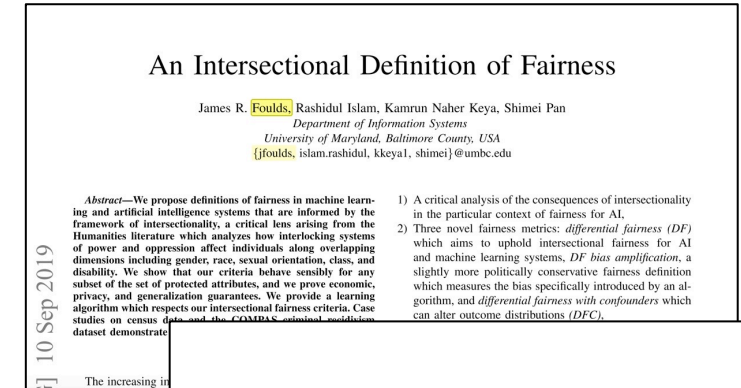


Algorithmic Justice League

Sociological and historical literature

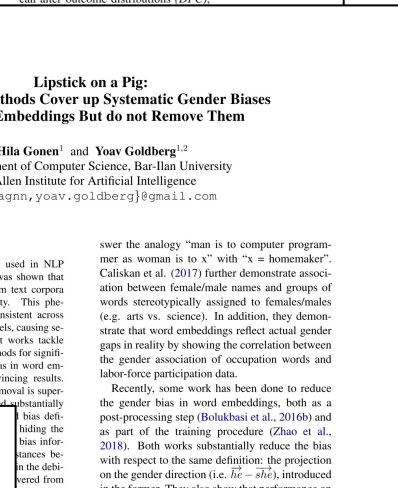
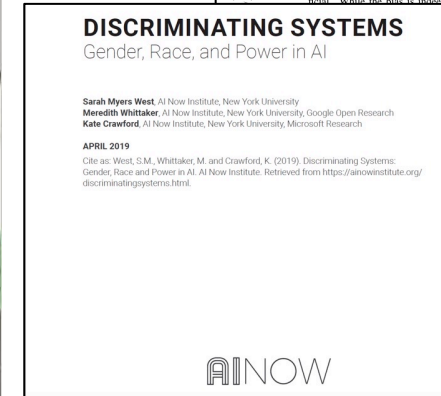


Technical studies



10 Sep 2019

24 Sep 2019



A woman with long dark hair and glasses, wearing a striped shirt, is smiling and holding a large stack of papers. She is standing in front of a chalkboard that has some handwritten text on it. The text on the chalkboard includes "MT0A - S", "MT1A - C", "MT1A - X", "MT2A - X2", "CR1A - BI", "CP1A - B", "CP1A - PU", "TY1A - T", "CR1A - SI", "LP1A - LO", and "MT2A - GO".

We have broken down the problem into three interrelated research areas:

1. Mapping the participation of women in data science and AI in the UK (and globally)
2. Diversity and inclusion in workplace cultures
3. Bias in the design of AI

**The
Alan Turing
Institute**

Where are the women?

Mapping the gender
job gap in AI

**Policy Briefing –
Full Report**

Erin Young, Judy Wajcman,
Laila Sprejer

**The
Alan Turing
Institute**

Public Policy Programme
Women in Data Science
and AI project



"Describe what you can bring to this company."

Mapping the gender job gap in AI: what did we find?

Diverging career trajectories

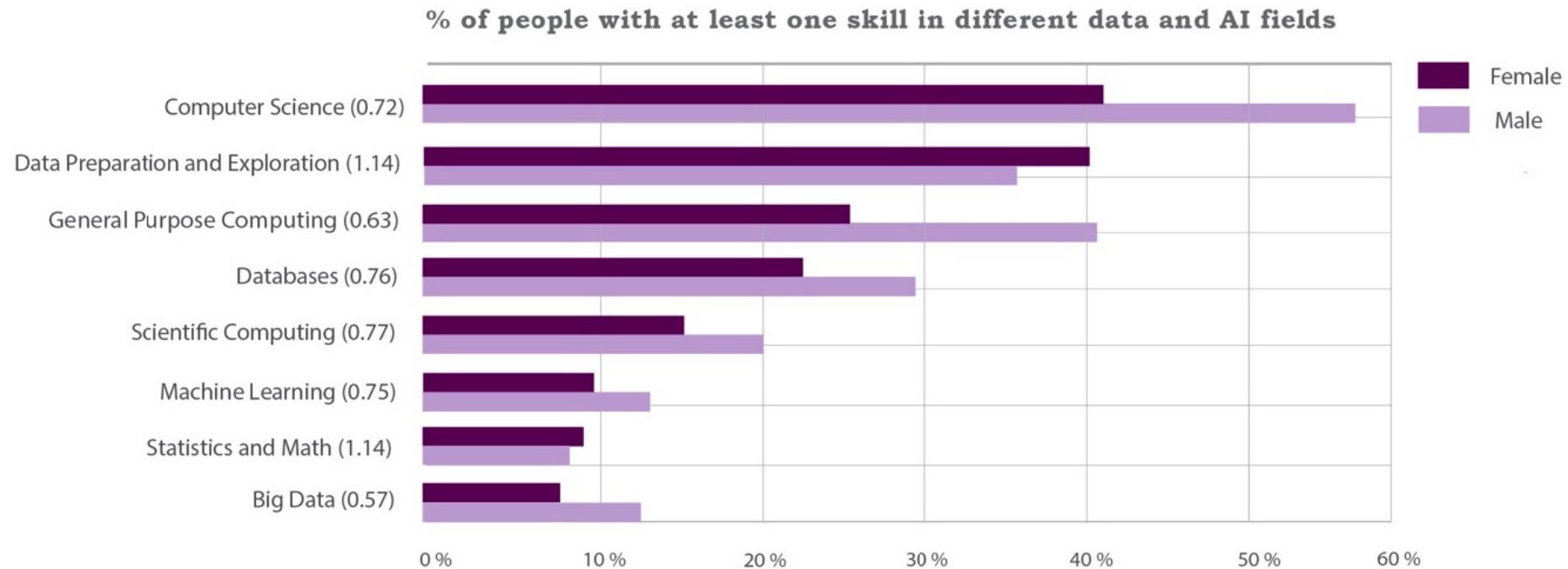
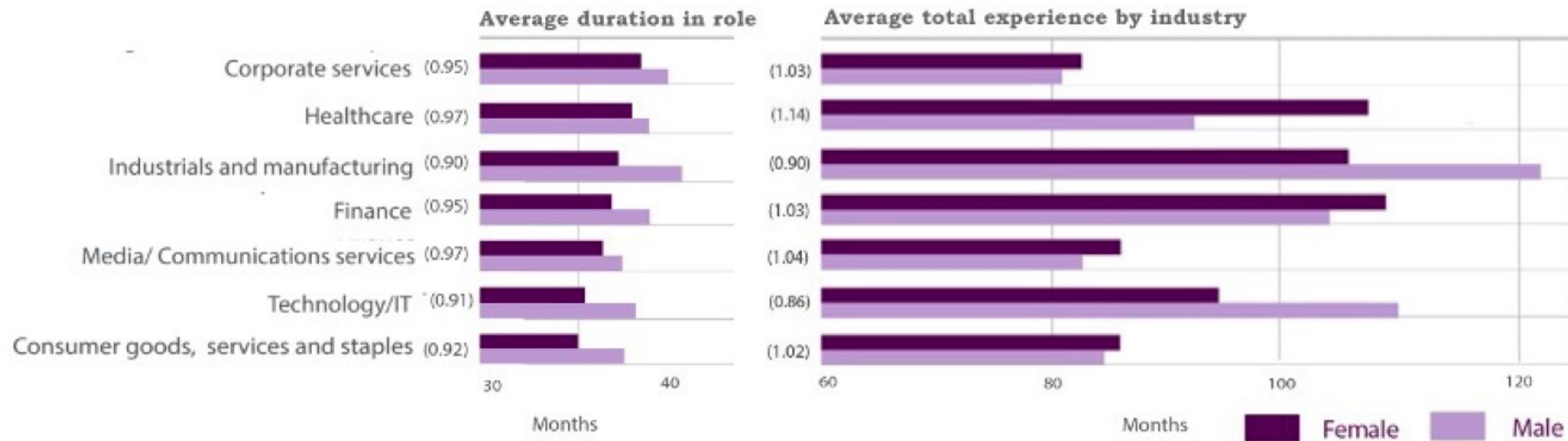


Figure 1: Percentage of people with at least one skill in different data and AI fields. Numbers in brackets represent the gender gap (female/male).

Mapping the gender job gap in AI: what did we find? (2)

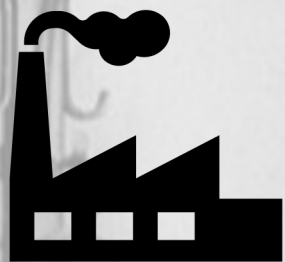
Job turnover and attrition rates



Figures 17 and 18: Average duration in role by industry, and average total experience in industry by gender, respectively.

Mapping the gender job gap in AI: what did we find? (3)

Industry differences



Self-reported skills



The qualification gap



Case Study: Participation in online Data Science platforms

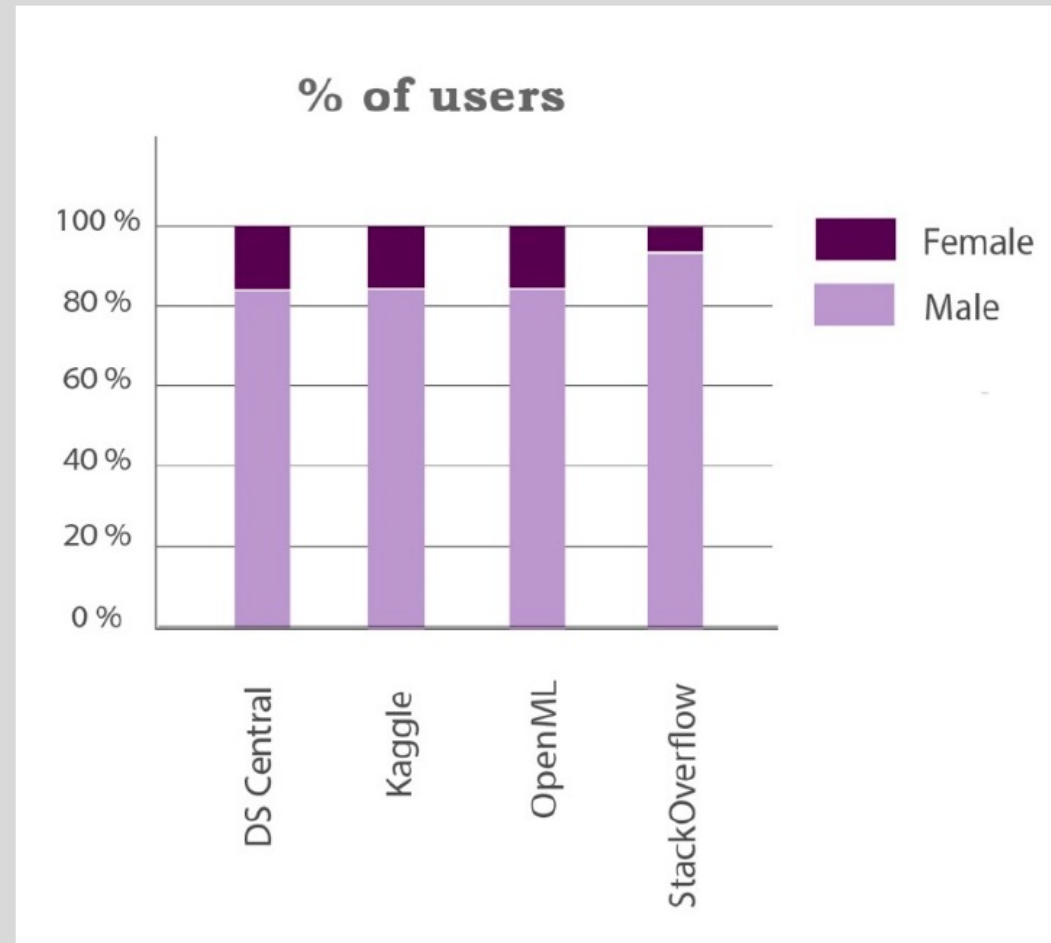


Figure 7: Estimated gender composition of frequently used online data science platforms (May 2019).

(Some) Policy Recommendations

The world's tech companies must improve their level of **reporting regarding diversity** and inclusion.

They must also mandate **responsible gender-sensitive design** and implementation of data science research and machine learning.

Countries need to take proactive steps to ensure the **inclusion of women and marginalised groups** in the design and development of machine learning and AI technologies.

Companies in the tech sector must embed **intersectional gender mainstreaming** in human resources policy so that women and men are given equal access to well-paid jobs and careers.

Thank you!

Visit turing.ac.uk/WiDSAI
to go to our project Hub

@erinlorelie

@jwajcman1

DISCUSSION PAPER

THE DIGITAL REVOLUTION:
Implications for Gender
Equality and Women's Rights
25 Years after Beijing



No. 36, August 2020

JUDY WAJCMAN, ERIN YOUNG AND ANNA FITZMAURICE

