SOFTWARE FAIRNESS

Thank you for participating to this survey, in which we aim at collecting your opinion on fairness in machine learning systems.

About the survey:
- It should be done in 15 minutes at most;
- The participation is voluntary;
- You can decide to stop answering and leave the survey at any time if you want to.

About data:
- Your answers will be anonymous;
- We will collect social and demographical data in an anonymized form;
- Collected data is going to be used for research purposes;

Thanks in advance for your effort and time!
By clicking on the "next" button, you provide your consent to the above conditions.

Best regards

*Campo obbligatorio

1.   Insert here your unique Prolific ID

_____

Background Information

2.   How old are you?

Contrassegna solo un ovale.

- ⬭ < 18
- ⬭ 18 - 30
- ⬭ 31 - 50
- ⬭ > 50
- ⬭ Prefer not to say

3. Which of the following most accurately describe(s) you?

Seleziona tutte le voci applicabili.

☐ Female
☐ Male
☐ Non-binary
☐ Transgender
☐ Intersex
☐ Prefer not to say

☐ Altro: _____

4. Where are you based?

Contrassegna solo un ovale.

◯ Asia
◯ Africa
◯ North America
◯ South America
◯ Antarctica
◯ Europe
◯ Australia
◯ Prefer not to say

5. What is the highest degree or level of education you hold?

Contrassegna solo un ovale.

◯ High School
◯ Bachelor's Degree
◯ Master's Degree
◯ Ph.D. or higher
◯ Prefer not to say
◯ Altro: _____

Information about your employment status and working experience

6. Please, complete the following sentence: I am currently [...]. *

    Seleziona tutte le voci applicabili.

    ☐ [...] self-employed.
    ☐ [...] an Open Source Developer.
    ☐ [...] a junior employee in a company.
    ☐ [...] a senior employee in a company.
    ☐ [...] a project manager in a company.
    ☐ [...] a top manager or higher in a company.
    ☐ [...] out of work.
    ☐ Prefer not to say
    ☐ Altro: _____

7. In which sector(s) do you work? *

    Seleziona tutte le voci applicabili.

    ☐ Information Technology
    ☐ Healthcare
    ☐ Finance
    ☐ Security
    ☐ Education
    ☐ Governance
    ☐ Entertainment
    ☐ Retail
    ☐ Transportation
    ☐ Prefer not to say
    ☐ Altro: _____

8.   What is your professional role(s)? *

Seleziona tutte le voci applicabili.

☐ Data Scientist
☐ Software Engineer
☐ Data Engineer
☐ Manager / Project Manager
☐ Software Analyst
☐ Software Architect
☐ Prefer not to say

☐ Altro: _____

9.   How many years of working experience do you have for your current role? *

Contrassegna solo un ovale.

◯ 0
◯ 1-3
◯ 4-6
◯ 7-9
◯ 10+

10.   Have you ever worked on artificial intelligence enabled systems or on   *
       systems that include a machine learning module?

Contrassegna solo un ovale.

◯ Yes
◯ No   *Passa alla domanda 27.*

How fairness is approached at work?

Generic definition of software fairness

Software fairness is impartial and just treatment or behaviour without favouritism or discrimination
assumed by software systems. Software fairness has started to attract the attention of researchers in
artificial intelligence, software engineering and law communities, with more than twenty different notions of
fairness proposed in the last few years. Yet, there is no clear agreement on which definition to apply in each
situation.

11. In your opinion, how much do the following aspects represent the generic   *
definition of software fairness given above?

Contrassegna solo un ovale per riga.

	Not at all	Slightly	Neutral	To a great extent	Extremely
Treating similar individuals in a way that they are equally likely to receive a specific outcome	◯	◯	◯	◯	◯
Do not favor certain subjects over others on the basis of sensitive attributes, e.g., race, gender, etc.	◯	◯	◯	◯	◯
Taking decisions by protecting individuals and groups from mistreatments	◯	◯	◯	◯	◯

12. Considering your working experiences, how much do the following apply? *

Contrassegna solo un ovale per riga.

	Not at all	Slightly	Neutral	To a great extent	Extremely
We focus on guaranteeing high probability to obtain ethically correct outcomes regardless of sensitive features	◯	◯	◯	◯	◯
We focus on guaranteeing that machine learning predictions are not going to discriminate by sensitive features	◯	◯	◯	◯	◯
We model the relation between attributes and outcomes, verifying that the outcome does not depend on sensitive attributes	◯	◯	◯	◯	◯

13. Do you use other approaches to deal with software fairness?

_____

14. What drink(s) do you prefer on Saturday nights? *

Seleziona tutte le voci applicabili.

☐ House
☐ Coca Cola
☐ Socks
☐ Water
☐ I do not prefer anything
☐ Altro: _____

Company maturity about fairness

15. Among the following roles, who has an impact on the choices about software fairness? *

Contrassegna solo un ovale per riga.

	Very low impact	Below average impact	Average impact	Above average impact	Very high impact
Data Scientist	◯	◯	◯	◯	◯
Software Engineer	◯	◯	◯	◯	◯
Data Engineer	◯	◯	◯	◯	◯
Manager / Project Manager	◯	◯	◯	◯	◯
Software Analyst	◯	◯	◯	◯	◯
Software Architect	◯	◯	◯	◯	◯
"Fairness Expert" role like	◯	◯	◯	◯	◯

16. At what level of maturity is fairness treated in your working environment? *

Contrassegna solo un ovale.

⬭ We do not treat software fairness

⬭ We occasionally treat software fairness, but related processes are disorganized and even chaotic

⬭ We regularly treat fairness and related processes are established, defined and documented

⬭ We regularly treat fairness and it develops its own standard fairness management processes

⬭ We regularly treat fairness and it monitors and controls its own fairness related processes through data collection and analysis

⬭ We regularly treat fairness and fairness related processes are constantly improved through monitoring feedback
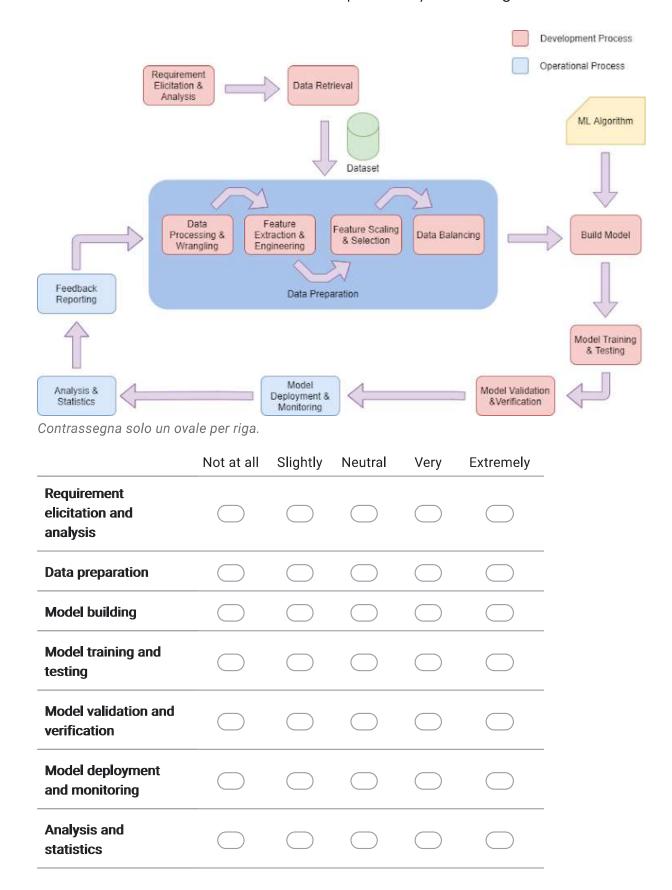
Fairness trade-offs

17. Considering the following software aspects, how important do you think they are when compared to software fairness? *

Contrassegna solo un ovale per riga.

	Less important than fairness	A bit less important than fairness	Neutral	A bit more important than fairness	More important than fairness
Usability	◯	◯	◯	◯	◯
Reliability	◯	◯	◯	◯	◯
Performance	◯	◯	◯	◯	◯
Supportability	◯	◯	◯	◯	◯
Accuracy	◯	◯	◯	◯	◯
Security and safety	◯	◯	◯	◯	◯
Maintenability and retraining	◯	◯	◯	◯	◯
Reusability and scalability	◯	◯	◯	◯	◯

Fairness lifecycle in ML pipeline

18. Considering a generic machine learning pipeline (like the following one), how much * DO YOU take fairness into account in these phases at your working environment?

Contrassegna solo un ovale per riga.

	Not at all	Slightly	Neutral	Very	Extremely
Requirement elicitation and analysis	◯	◯	◯	◯	◯
Data preparation	◯	◯	◯	◯	◯
Model building	◯	◯	◯	◯	◯
Model training and testing	◯	◯	◯	◯	◯
Model validation and verification	◯	◯	◯	◯	◯
Model deployment and monitoring	◯	◯	◯	◯	◯
Analysis and statistics	◯	◯	◯	◯	◯

19. Which tool(s) do you use to imbue fairness into ML pipeline building (if any)?

Seleziona tutte le voci applicabili.

☐ IBM's AI Fairness 360
☐ Google's What-If Tool (binary classification)
☐ Microsoft Fairlearn
☐ PwC' Responsible AI Toolkit
☐ audit-AI

☐ Altro: _____

20. Counting back from 5, which number follows 3? *

Contrassegna solo un ovale.

⬭ 2
⬭ 3
⬭ 4
⬭ 6

Dealing with fairness

Root causes

21. In your opinion, which are the sensitive attributes that can cause   *
    discrimination?

Contrassegna solo un ovale per riga.

	Definitely not	Probably not	Neutral	Very probably	Definitely
Age	◯	◯	◯	◯	◯
Sex, gender, gender identity	◯	◯	◯	◯	◯
Race, skin color	◯	◯	◯	◯	◯
National origin	◯	◯	◯	◯	◯
Language	◯	◯	◯	◯	◯
Sexual orientation	◯	◯	◯	◯	◯
Religious orientation	◯	◯	◯	◯	◯
Familial status	◯	◯	◯	◯	◯
Disability	◯	◯	◯	◯	◯
Pregnancy	◯	◯	◯	◯	◯
Job career	◯	◯	◯	◯	◯
Equal pay, compensation	◯	◯	◯	◯	◯

22. In your opinion, can there be other sensitive attributes that can cause
    discrimination? If so, which one?

_____

23. In your opinion, which are the aspects that can cause discrimination? *

Contrassegna solo un ovale per riga.

	Definitely not	Probably not	Neutral	Very probably	Definitely
Dataset size	◯	◯	◯	◯	◯
Dataset data quality	◯	◯	◯	◯	◯
Dataset balancing	◯	◯	◯	◯	◯
Number of features	◯	◯	◯	◯	◯
Sensitive features	◯	◯	◯	◯	◯
Redundant features	◯	◯	◯	◯	◯
Model hypothesis	◯	◯	◯	◯	◯
ML algorithm	◯	◯	◯	◯	◯
Hyperparameters settings	◯	◯	◯	◯	◯
Training time	◯	◯	◯	◯	◯
Verification and/or validation phase	◯	◯	◯	◯	◯
Consider data and environment evolution	◯	◯	◯	◯	◯
Perform validation by creating a partition that contains discriminated individuals only	◯	◯	◯	◯	◯

Best and bad practices

24. Considering your own working experience, can you classify the following aspects as   *
     BAD or BEST practices?

Contrassegna solo un ovale per riga.

	Definitely it is a BAD practice	Very Probably it is a BAD practice	Probably it is a BAD practice	Possibly it is a BAD practice	Occasionally it is a BAD practices	Neutral	Occ it i
Make data balancing activities based on sensitive features	◯	◯	◯	◯	◯	◯	
Base model training mostly on sensitive features	◯	◯	◯	◯	◯	◯	
Conducting exploratory interviews/focus groups to elicit fairness requirements	◯	◯	◯	◯	◯	◯	
Use composite models (combination of other models, ensemble learning)	◯	◯	◯	◯	◯	◯	
Perform hyperparameters tuning	◯	◯	◯	◯	◯	◯	
Select a specific ML algorithm is order to respect specific Fair-Critical Hypothesis	◯	◯	◯	◯	◯	◯	
Perform validation and testing over a perfectly	◯	◯	◯	◯	◯	◯	

balanced
dataset

Consider fairness a priority aspect during requirements elicitation and analysis	⬭	⬭	⬭	⬭	⬭	⬭
Make a particular assignment to the weights in order to solve underfitting and overfitting	⬭	⬭	⬭	⬭	⬭	⬭
Make a particular assignment to the weights in order to make the model more precise in the predictions	⬭	⬭	⬭	⬭	⬭	⬭
Remove sensitive features from dataset	⬭	⬭	⬭	⬭	⬭	⬭
Comparing a model that uses sensitive attributes with a model that does not make use of them	⬭	⬭	⬭	⬭	⬭	⬭
Perform model training on perfectly balanced dataset	⬭	⬭	⬭	⬭	⬭	⬭
Perform validation by creating a partition that	⬭	⬭	⬭	⬭	⬭	⬭

contains discriminated individuals only						
Add more records to the dataset trying to benefit discriminated individuals	⬭	⬭	⬭	⬭	⬭	⬭
Perform maintenance and/or model evolution with considering data changes over time	⬭	⬭	⬭	⬭	⬭	⬭
Assign random values to model weights	⬭	⬭	⬭	⬭	⬭	⬭

25. Considering your own working experience, are there any other bad practices to NOT adopt?

_____

_____

_____

_____

_____

26. Considering your own working experience, are there any other best practices to adopt?

_____

_____

_____

_____

_____

Closing

> Thank you for your answers and for your precious time! Before concluding, we want to ask you some final (optional) questions. Then, you can hit "submit" to close the survey.

27. If you like, you can tell us something else about fairness. Any information we did not consider is important for us!

_____

_____

_____

_____

_____

28. If you would like to stay updated regarding the results of our study or to be contacted to participate in a follow-up interview, please leave your e-mail address.

_____

Prolific completion code
25E8E841

Questi contenuti non sono creati né avallati da Google.

Google Moduli