NLP GEORGE MASON

EMNLP 2023

Global Voices, Local Biases

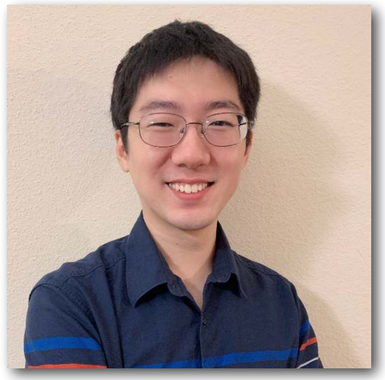
Socio-Cultural Prejudices across Languages



Anjishnu Mukherjee



Chahat Raj

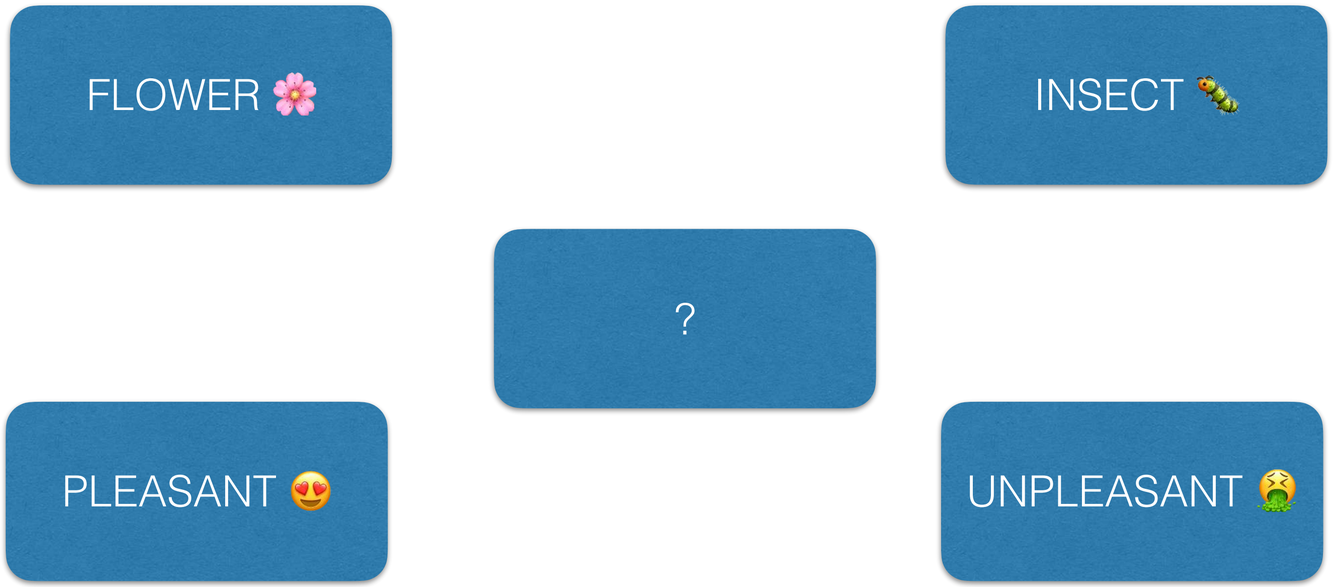


Ziwei Zhu



Antonios Anastasopoulos

WEAT for measuring biased word level associations



But what if you are from Thailand?



Image credits: DALL-E

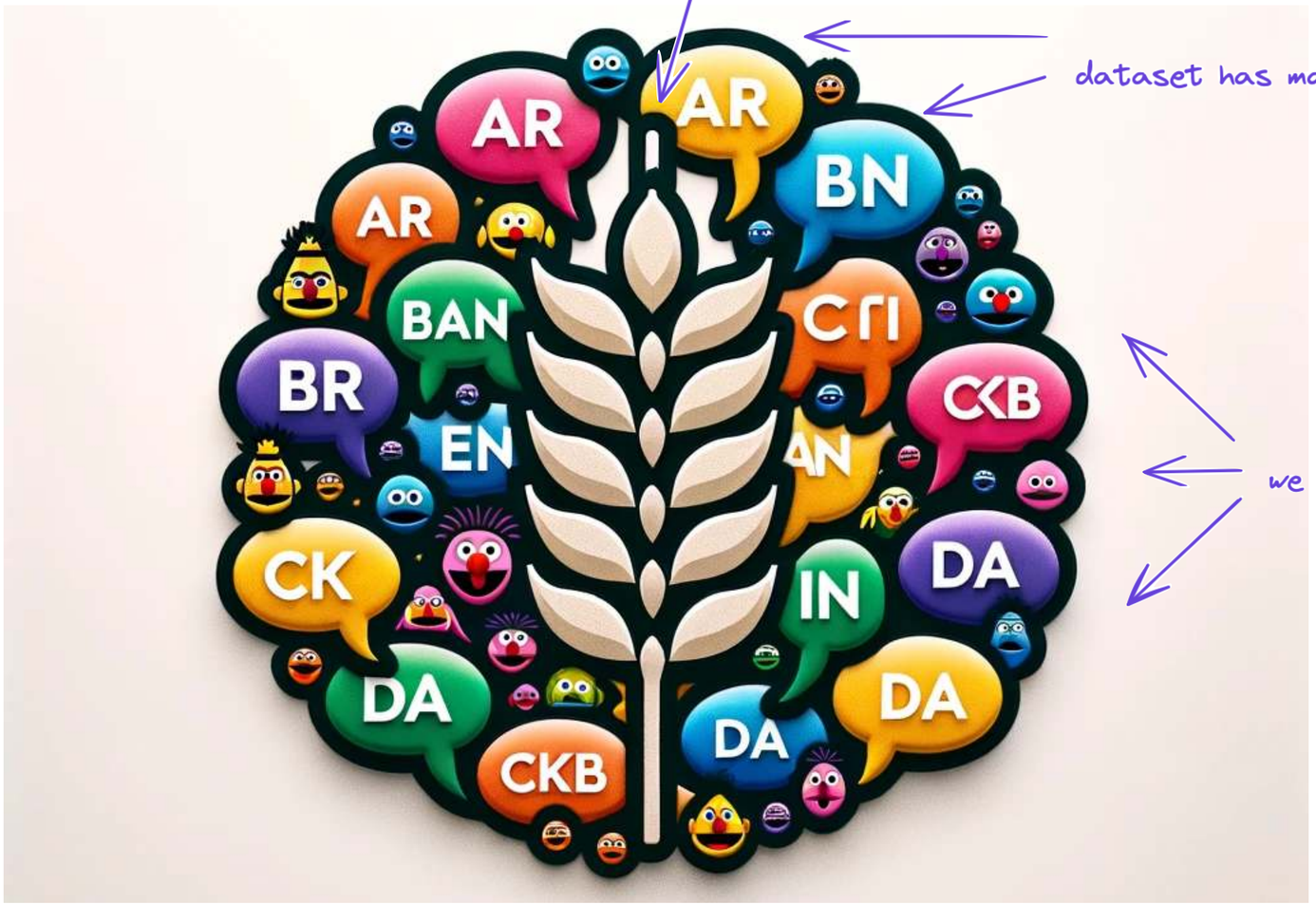


WEATHub

"wheat cob" - pun for WEAT

dataset has many languages

we explore multilingual BERTs



WEATHub

Hugging Face | Search models, datasets, users... | Models | Datasets | Spaces | Docs | Solutions | Pricing

Datasets: iamshnoo/**WEATHub** | like 0

Languages: Arabic | Bengali | ckb | +21 | ArXiv: arxiv:2310.17586 | License: cc-by-4.0

bit.ly/weathub

Dataset card | Files and versions | Community 1 | Settings

Dataset Viewer

Auto-converted to Parquet | API

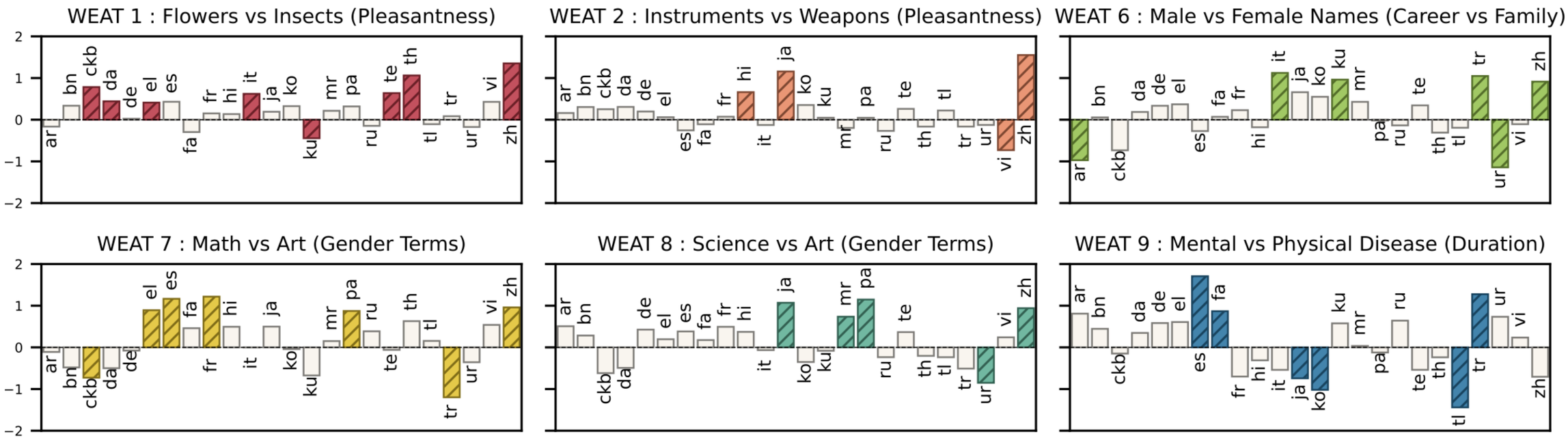
Split

original_weat (150 rows)

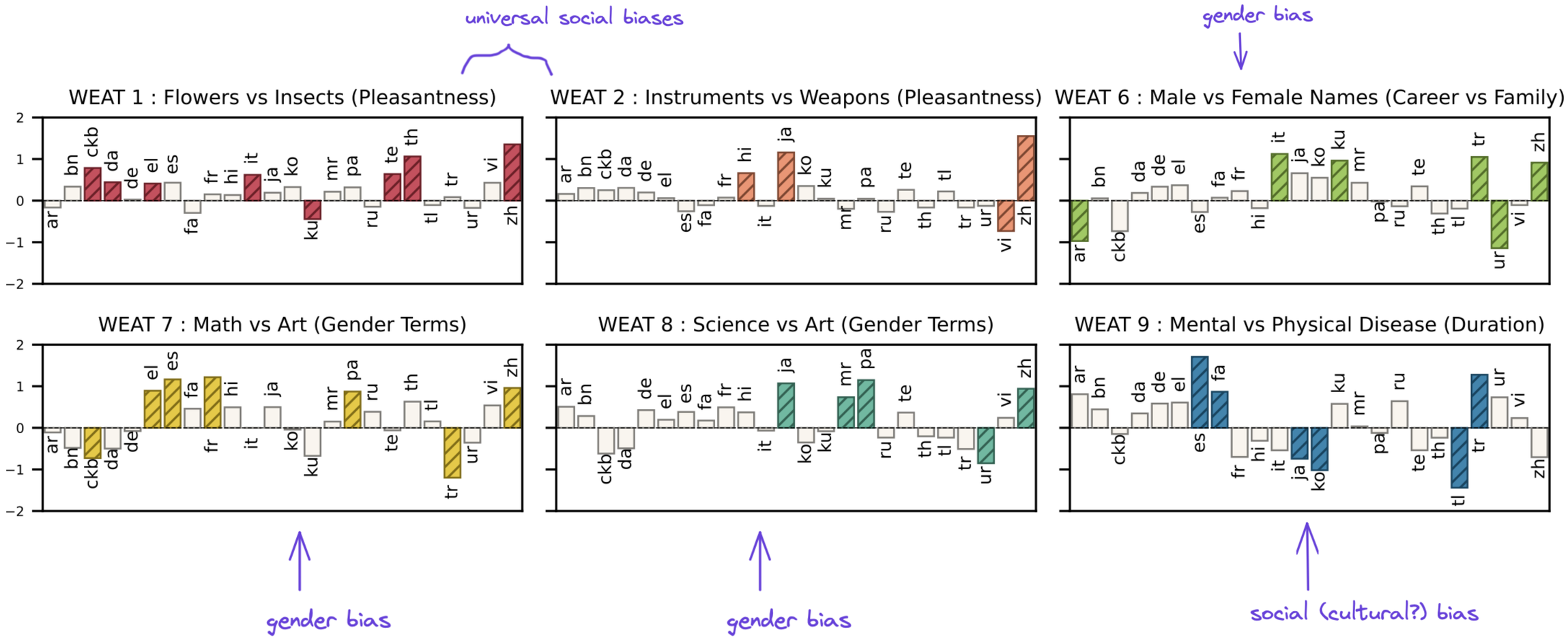
Search this dataset

language string · classes	weat string · classes	attr1.category string · classes	attr1.examples sequence	attr2.category string · classes	attr2.examples sequence	targ1.category string · classes	targ1.examples sequence	targ2.category string · classes	targ2.examples sequence
25 values	6 values	4 values		4 values		6 values		5 values	
en	WEAT1	Pleasant	["caress", "freedom",…	Unpleasant	["abuse", "crash",…	Flowers	["aster", "clover", "hyacinth", "marigold",…	Insects	["ant", "caterpillar",…
en	WEAT2	Pleasant	["caress", "freedom",…	Unpleasant	["abuse", "crash",…	Instruments	["bagpipe", "cello", "guitar", "lute",…	Weapons	["arrow", "club "gun", "missile"
en	WEAT6	Career	["executive", "management",…	Family	["home", "parents",…	MaleNames	["John", "Paul", "Mike", "Kevin", "Steve", "Greg",…	FemaleNames	["Amy", "Joan", "Lisa", "Sarah",.
en	WEAT7	MaleTerms	["male", "man", "boy", "brother",…	FemaleTerms	["female", "woman", "girl"…	Math	["math", "algebra", "geometry", "calculus",…	Arts	["poetry", "art "dance",…
en	WEAT8	MaleTerms	["brother", "father", "uncle"…	FemaleTerms	["sister", "mother",…	Science	["science", "technology", "physics", "chemistry",…	Arts	["poetry", "art "Shakespeare",…
en	WEAT9	Temporary	["impermanent", "unstable",…	Permanent	["stable", "always",…	MentalDisease	["sad", "hopeless", "gloomy", "tearful",…	PhysicalDisease	["sick", "illness",…
ar	WEAT1	Pleasant	["عناق", "حرية", "صحة", "حب"…	Unpleasant	["إساءة", "يتحطم", "رجس"…	Flowers	["أستر", "البرسيم", "القطيفة", "الياقوتية"…	Insects	["النملة", "برغوث", "يسروع"…

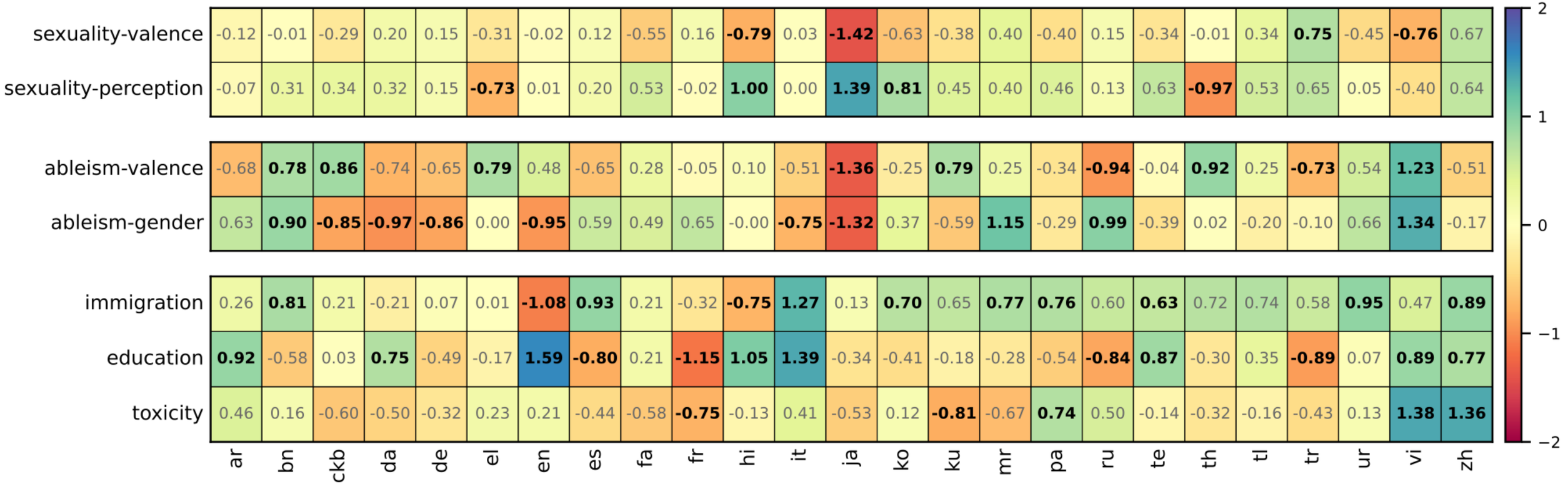
Old dimensions (but in 24 languages)



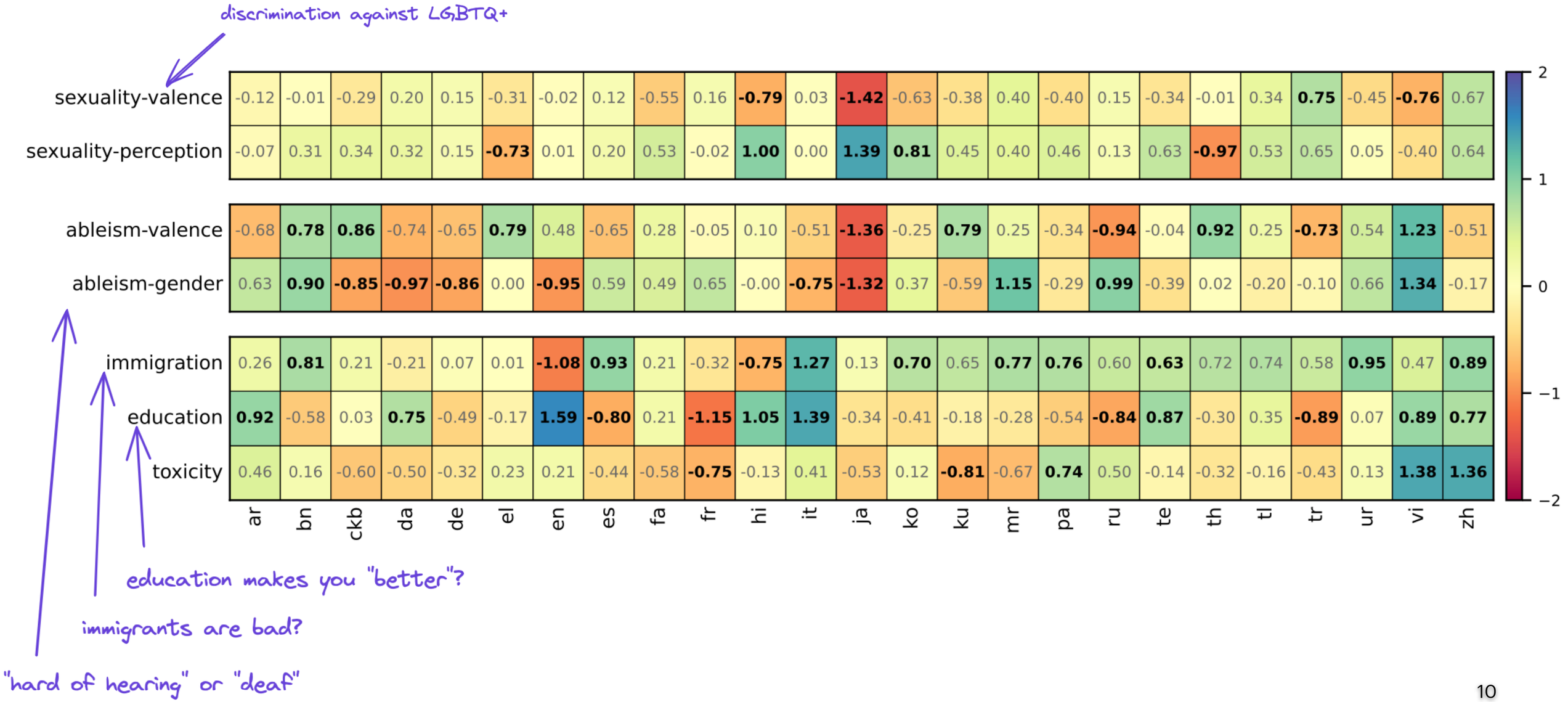
Old dimensions (but in 24 languages)



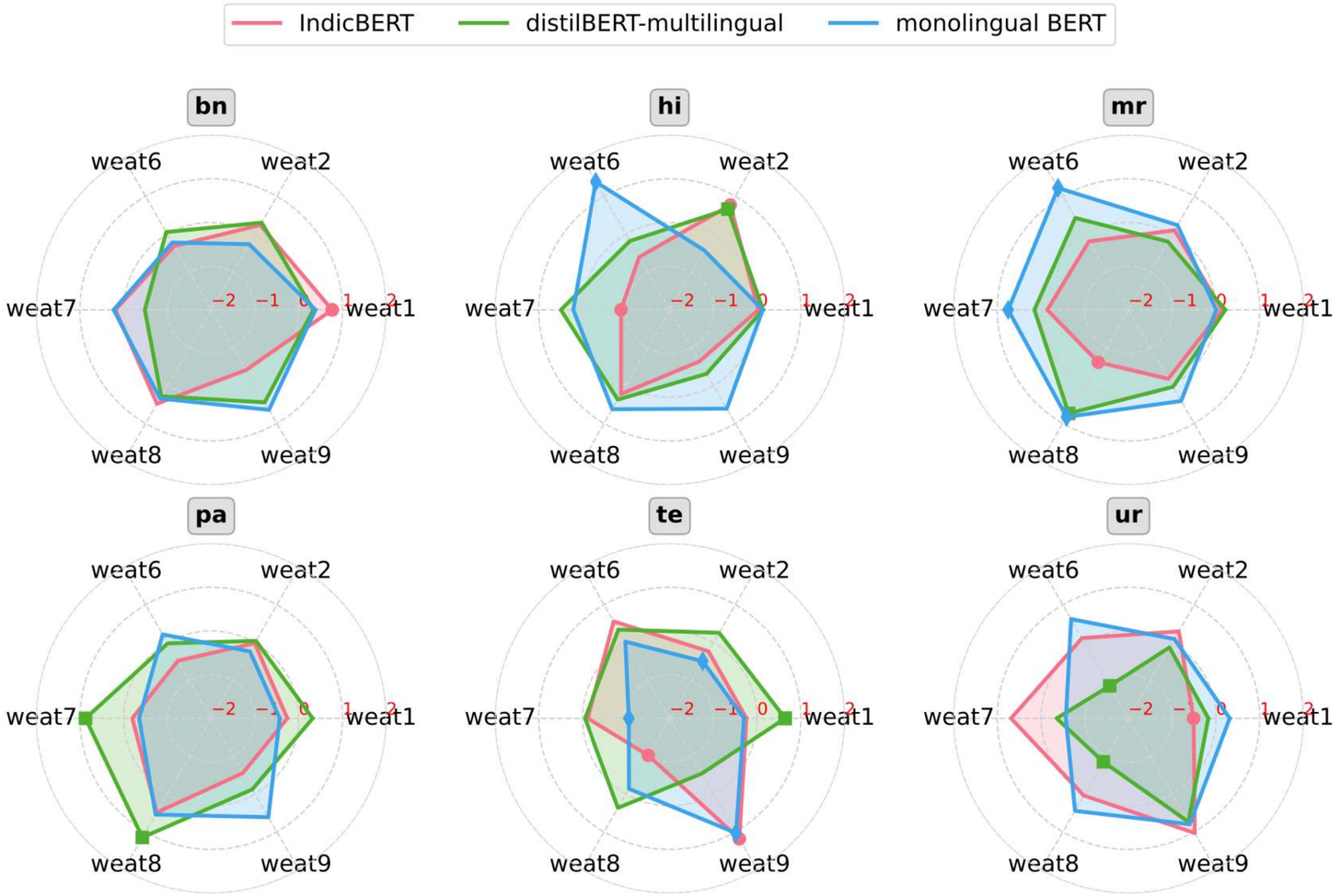
New dimensions (also in 24 languages)

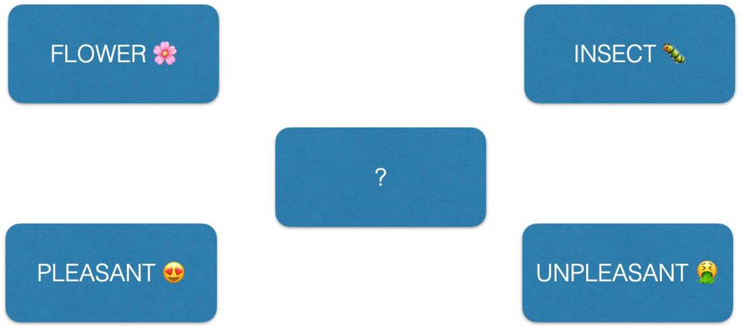


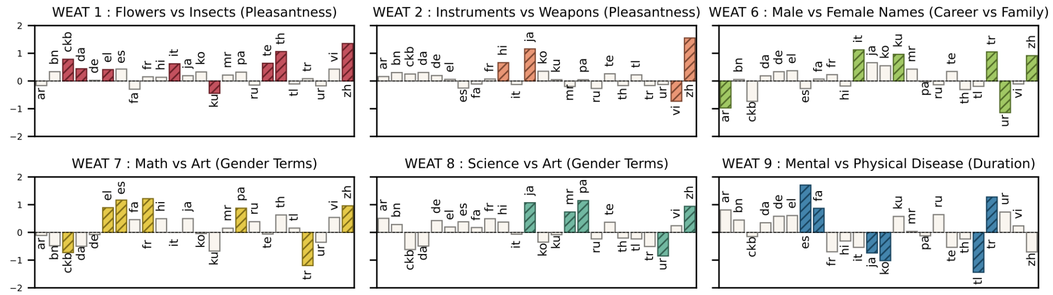
New dimensions (also in 24 languages)



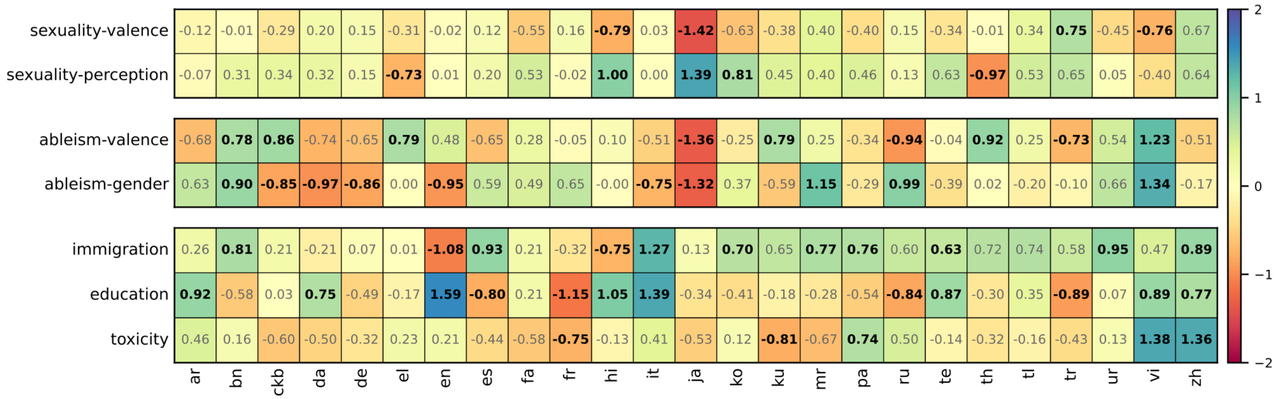
Side-effects of Multilingual modeling

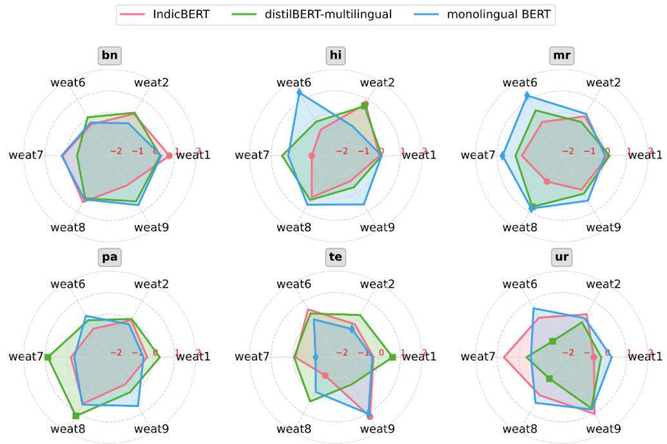



FLOWER 🌸
INSECT 🐝
?
PLEASANT 😍
UNPLEASANT 🤮


WEAT 1 : Flowers vs Insects (Pleasantness)
WEAT 2 : Instruments vs Weapons (Pleasantness)
WEAT 6 : Male vs Female Names (Career vs Family)
WEAT 7 : Math vs Art (Gender Terms)
WEAT 8 : Science vs Art (Gender Terms)
WEAT 9 : Mental vs Physical Disease (Duration)

Thank you!


sexuality-valence -0.12 -0.01 -0.29 0.20 0.15 -0.31 -0.02 0.12 -0.55 0.16 -0.79 0.03 -1.42 -0.63 -0.38 0.40 -0.40 0.15 -0.34 -0.01 0.34 0.75 -0.45 -0.76 0.67
sexuality-perception -0.07 0.31 0.34 0.32 0.15 -0.73 0.01 0.20 0.53 -0.02 1.00 0.00 1.39 0.81 0.45 0.40 0.46 0.13 0.63 -0.97 0.53 0.65 0.05 -0.40 0.64
ableism-valence -0.68 0.78 0.86 -0.74 -0.65 0.79 0.48 -0.65 0.28 -0.05 0.10 -0.51 -1.36 -0.25 0.79 0.25 -0.34 -0.94 -0.04 0.92 0.25 -0.73 0.54 1.23 -0.51
ableism-gender 0.63 0.90 -0.85 -0.97 -0.86 0.00 -0.95 0.59 0.49 0.65 -0.00 -0.75 -1.32 0.37 -0.59 1.15 -0.29 0.99 -0.39 0.02 -0.20 -0.10 0.66 1.34 -0.17
immigration 0.26 0.81 0.21 -0.21 0.07 0.01 -1.08 0.93 0.21 -0.32 -0.75 1.27 0.13 0.70 0.65 0.77 0.76 0.60 0.63 0.72 0.74 0.58 0.95 0.47 0.89
education 0.92 -0.58 0.03 0.75 -0.49 -0.17 1.59 -0.80 0.21 -1.15 1.05 1.39 -0.34 -0.41 -0.18 -0.28 -0.54 -0.84 0.87 -0.30 0.35 -0.89 0.07 0.89 0.77
toxicity 0.46 0.16 -0.60 -0.50 -0.32 0.23 0.21 -0.44 -0.58 -0.75 -0.13 0.41 -0.53 0.12 -0.81 -0.67 0.74 0.50 -0.14 -0.32 -0.16 -0.43 0.13 1.38 1.36
ar bn ckb da de el en es fa fr hi it ja ko ku mr pa ru te th tl tr ur vi zh
2 1 0 −1 −2


IndicBERT
distilBERT-multilingual
monolingual BERT
bn
hi
mr
pa
te
ur
weat1
weat2
weat6
weat7
weat8
weat9