

Gender and Sex in the Computer Graphics research literature

Supplemental Material

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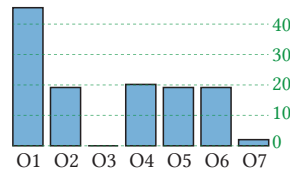
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1 METHODOLOGY

We reviewed all technical papers published on ACM Transactions on Graphics and presented at either of SIGGRAPH North American or SIGGRAPH Asia between January 2015 and December 2021. We recorded all those which contained explicit mentions of sex or gender and analyzed them from an algorithmic fairness perspective, drawing qualitative and quantitative observations listed below.

2 OBSERVATIONS

From a total corpus of 1509, we identified 64 works (see Table 1) that explicitly referenced sex or gender. Studying these in depth, we draw seven global observations relevant to our fairness analysis (see main text), which we detail below. In the inset, we show their aggregate prevalences.



- O1. In 45 (70%) of the reviewed works, gender and sex are explicitly presented as binary variables (taking values *male/female* or *man/woman*). None of these 45 mentioned or analyzed the representational bias this choice introduces towards gender non-conforming individuals.
- O2. In 19 (30%) of the reviewed works, the nature of the variable is not made explicit (e.g., *we tested our algorithm on images spanning various genders and ethnicities*).
- O3. None of the reviewed works presented gender or sex as non-binary. None of the observed works acknowledged the existence of gender non-conforming, trans, non-binary or intersex individuals.
- O4. In 20 (32%) of the reviewed works, gender or sex are used as target or feature binary variables in an algorithm (or suggested to be used as future work). In all these, gender is (implicitly or explicitly) used as a proxy for other variables; however, what they are a proxy for varies throughout the literature, from body proportions to voice attributes to facial expressions to verbal queues in speech to preferences in attire.
- O5. In 19 (30%) of the reviewed works, gender or sex are mentioned as demographic data about the diversity of used datasets. None of the reviewed works explicitly mention the presence of intersex, gender non-conforming, trans or non-binary individuals in their datasets.
- O6. In 19 (30%) of the reviewed works, gender or sex are mentioned as demographic data about the diversity of user study participants. Two include participants of “unknown” gender, and none reported participants of non-binary genders.
- O7. Several of the reviewed works use or propose new data-based binary gender classifiers to be used on images.

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Table 1: Recorded SIGGRAPH 2015-2021 technical papers.

Paper	O1	O2	O3	O4	O5	O6	O7
[Zhang et al. 2021b]	X					X	
[Wu et al. 2021]		X					
[Chen et al. 2021]	X				X		
[Sonlu et al. 2021]	X			X			
[Wang et al. 2021]	X			X			
[Zhang et al. 2021a]		X			X		
[Feng et al. 2021]	X						
[Kim and Singh 2021]	X			X			
[Wang et al. 2020]		X			X		
[Yoon et al. 2020]	X				X	X	
[Tewari et al. 2020]		X					
[Li et al. 2020]		X			X		
[Won et al. 2020]		X			X		
[Wisessing et al. 2020]	X			X			
[Chen et al. 2020]	X			X			
[Riviere et al. 2020]		X					
[Wang et al. 2019]	X			X			X
[Yu et al. 2019]	X					X	
[Dong et al. 2019]	X					X	
[Mueller et al. 2019]	X					X	
[Kuo et al. 2019]		X		X			
[Sun et al. 2019]	X						
[Cao et al. 2018]		X			X		
[Wang et al. 2018a]	X			X			
[Geng et al. 2018]	X					X	
[Huang et al. 2018]	X				X		
[Wang et al. 2018b]	X					X	
[Saito et al. 2018]		X			X		
[Pai et al. 2018]	X				X		
[Zhao et al. 2018]		X				X	
[Yang et al. 2018]	X			X			
[Zhou et al. 2018]	X				X		
[Yamaguchi et al. 2018]	X				X		
[Xu et al. 2018]	X				X		
[Averbuch-Elor et al. 2017]	X					X	
[Wen et al. 2017]		X					
[Li et al. 2017]	X			X			
[Romero et al. 2017]	X				X		
[Mehta et al. 2017]		X					
[Smith and Neff 2017]	X				X		
[Durupinar et al. 2016]	X				X		
[Kouliris et al. 2017]	X					X	
[Konrad et al. 2017]	X					X	
[Taylor et al. 2017]	X			X			
[Karras et al. 2017]	X			X			
[Jin et al. 2017]	X			X			

Table 1 continued

[Lun et al. 2016]	X					X	
[Olszewski et al. 2016]	X				X		
[Garrido et al. 2016b]	X					X	
[Bartle et al. 2016]		X		X	X		
[Kemelmacher-Shlizerman 2016]	X			X			X
[Garrido et al. 2016a]	X						
[Edwards et al. 2016]	X					X	
[Selim et al. 2016]		X					
[Zell et al. 2015]	X				X	X	
[Lee et al. 2015]	X					X	
[Adib et al. 2015]		X				X	
[Loper et al. 2015]	X			X			
[Li et al. 2015]	X					X	
[Swedish et al. 2015]		X		X			
[Lun et al. 2015]	X					X	
[Rogge et al. 2014]	X			X			
[Pons-Moll et al. 2015]	X			X			

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