

A Sampling from Twitter

We used the following method for sampling TWITTER 2019: First we scraped 2000 recent tweets, labelled as English that also contained #morning, a rather neutral concept that is relevant to all humans. Then we largely followed the Pan16 Twitter approach: From the Twitter accounts that had provided a link to their webpage in their profile and from the description also appeared to belong to a person (and not a brand, organisation, animal, fan club etc.), we followed the link to assert that it was a personal webpage (blog, Facebook, Instagram, LinkedIn etc.) that indeed belonged to only one person. For most cases the gender was unambiguously stated on the webpage, but in some cases we inferred the gender from profile pictures. If in doubt, the author was not included which we acknowledge may exclude some authors that do not associate themselves unambiguously with either male or female. We gender-annotated 100 authors and for each author, we scraped up to 1000 recent tweets. In line with Twitter data usage policy, we will share ids for these tweets to facilitate reproduction of results.

	-ADV	+ADV
AGE	45.8	60.2
GENDER	54.5	51.5

Table 5: Distribution of Male/Young class, respectively in the predicted dataset used for uptraining. Female/Old is the difference to 100.

System	Task	Dataset	-ADV		+ADV		Δ
			dev	test	dev	test	
Main	Mention	AGE	74.33	76.56	69.71	72.94	-
		GENDER	79.65	75.11	78.21	72.49	-
Diagnostic	Demographic attr.	AGE	57.82	67.86*	54.71	53.45*	4.48
		GENDER	62.08	56.79*	54.58	53.74*	4.55

Table 6: Classification accuracy for the mention task and adversarial task with and without adversarial training on PAN16 TWIT. *) Significantly different from random $p < 0.05$. Δ : difference between development set accuracy of the adversarial training and attacker development adversarial accuracy.

	Male	Female
- ADV	<p>” Emma soon started to regret the chicken coop plan ”</p> <p>Desiree Hancock 198846 falls into the ” not ”</p> <p>cos then you get excluded from being buried for ” medical reasons ”</p> <p>hi Jeff . I’m starting - barstool reservations & would love to buy you a pint and hear your insight from Finally finished eyes for : .LINK</p> <p>There needs to be a campaign to answer ” #Spartacus ” when asked your name at</p> <p>What is this ” outside of London ” place you talk about ?</p> <p>let me know when there is an app I can set your microwave from</p> <p>Gonna be in Germany then . Maybe the November one ...</p> <p>I think I’d call that an adapter . But I do like the answer from</p>	<p>Will you be at the Career Fair on 10/(? will be ! Stop by ! .LINK</p> <p>Ingram Content Group is hiring Software Developers , Field Sales , Finance Mgrs & Marketing Professionals ! #jobs</p> <p>love ! great picture !</p> <p>oh the stories I could tell you ! #interview101</p> <p>RT : Claves para periodistas y comunicadores : The Changing Relationship Between PR and Business Journalism .LINK</p> <p>RT : Despite the myth that all entrepreneurs are under 30 , EIU report finds 2/3rds are over 50 .LINK</p> <p>RT : The best LOL ever about Prism (via) .LINK</p> <p>RT : The varying minimum wage in different countries (Demonstrated through Big Macs !) .LINK</p> <p>love your pic ! Night night !</p> <p>Get All Laundry Detergent for only \$1.99 this week ! (Includes Free & Clear !) - .LINK</p>
+ ADV	<p>Party With TechCrunch Boston This Wednesday . is excited to pitch our new service .LINK</p> <p>TechCrunch Tokyo 2012 Winner Whill’s Sleek Wheelchair Alternative Is Ready For Pre-Orders .LINK</p> <p>fly back Friday night , around most of next week . My office is in marbella</p> <p>Anyone been to the Reindeer Centre at Ashford ? Any good</p> <p>4 Tips for Writing Better Blog Posts — Web Marketing Strategies by an SEO Consultant .LINK</p> <p>4 Tips for Writing a Blog Post Opening that Turns Heads — Jeffbullas’s Blog .LINK</p> <p>7 Ways To Find #Freelance #Writing Gigs Weekly : Never Miss Out on Work At Home #Jobs .LINK</p> <p>Announcement from Freelance Writing Jobs For All Levels Of Experience — LinkedIn .LINK</p> <p>Beastly fire disrupts Idaho vacation heaven - The Detroit News : San Francisco ChronicleBeasLINK</p> <p>Best SEO Company India — SEO Content Writers — SEO & Link Building Service Provider .LINK</p>	

Table 7: Top 10 most confidently predicted gender tweets by attacker when fitting to adversarially and non-adversarially trained representation. Usernames are removed and links replaced with [.LINK](#)