

UNCOVERING GENDER BIAS IN AI-GENERATED JOB ADS

By: Shirin Yanni

Supervisor: Arndt Niebisch, Privatdoz. MA PhD

Introduction

Gender stereotypes still influence career choices and contribute to labor market inequality.

Language in job advertisements reflects and reinforces these biases.

Gendered terms can discourage women from applying, especially in male-dominated fields.

AI-generated job ads raise concerns about amplifying existing gender bias.

This study examines gender-coded language in both real and AI-generated job ads.

Patterns of gendered wording are analyzed using the lexicon developed by Gaucher et al. (2011).

Goal: Identify and compare gender bias in human-written vs. AI-generated content.

Results

- **Real Job Ads** from Hugging Face (n=839): 15.1% of job postings were male-coded, 15.5% female-coded, and 69.4% neutral. **No clear gender bias observed.**
- Frequent male-coded terms: “active”, “superior”, “confident”.
- Frequent female-coded terms: “interpersonal”, “kind”, “honest”.
- **GPT-generated postings** (n=836): **78.5% male-coded**, 7.9% female-coded, 13.6% neutral.
- Male-coded terms: “analytical”, “decisions”, “competitor”.
- Female-coded terms: “interpersonal”, “understanding”, “responsible”.

Conclusion

The analysis shows that **human-written job postings exhibit a balanced gender representation**, with a nearly equal distribution of masculine- and feminine-coded language. In contrast, **GPT-generated job descriptions display a significant male bias**, with nearly ten times more masculine-coded than feminine-coded postings. These findings highlight the potential of AI to unintentionally reinforce gender stereotypes, underscoring the need for deeper investigation and more responsible application of language models in job text generation.

References

Gaucher, D., Friesen, J. und Kay, A. C. (2011): Evidence that gendered wording in job advertisements exists and sustains gender inequality. Journal of Personality and Social Psychology, 101(1).

Methodology

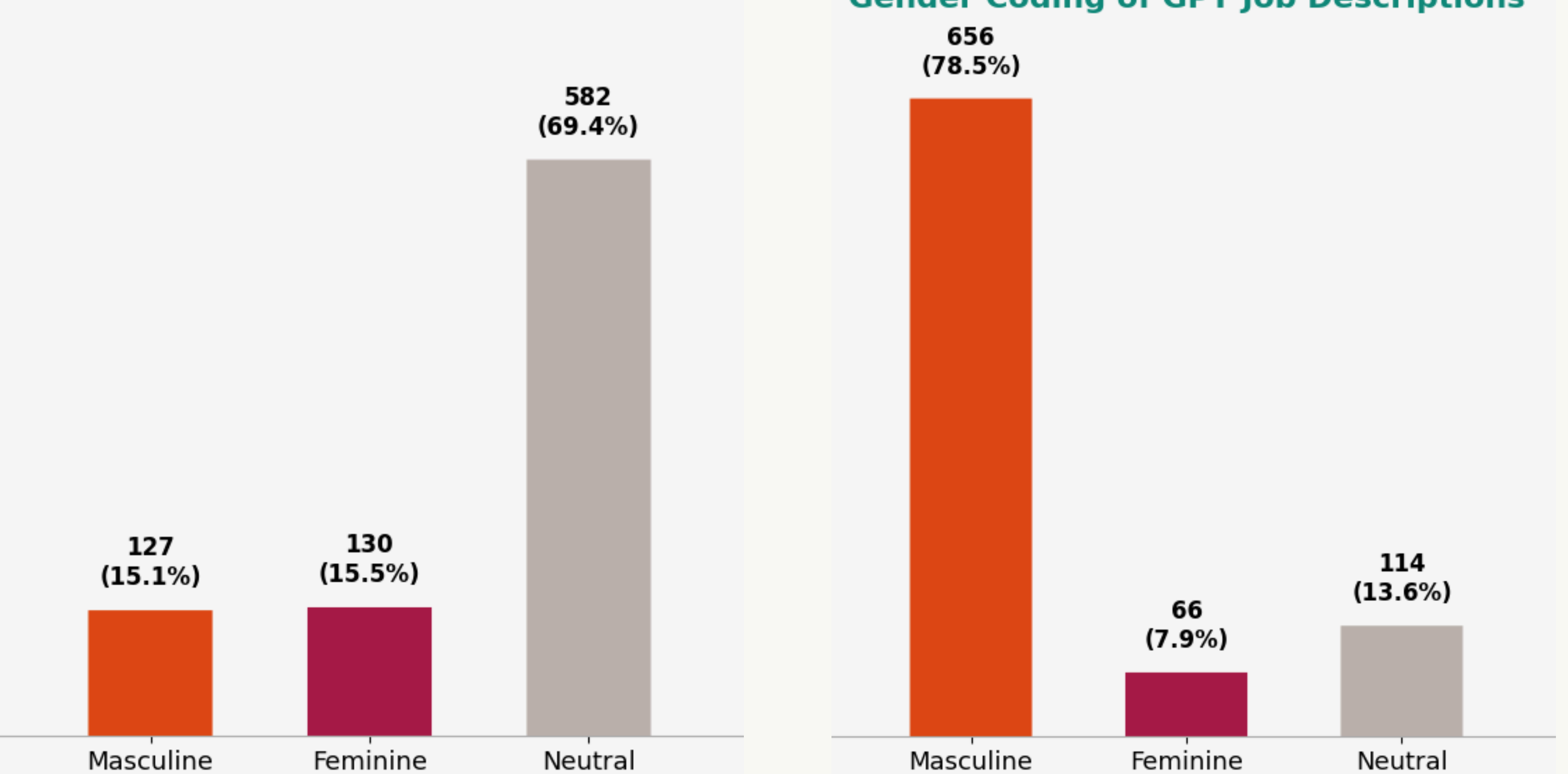
Dataset 1 (Human-Written):

839 job ads from Hugging Face; cleaned, tokenized, and analyzed using Python and a gendered language lexicon (Gaucher et al., 2011).

Dataset 2 (GPT-Generated):

Job ads generated via GPT-4 with dynamic prompts and recruiter persona (T=0.7, max tokens=480). Same lexicon applied; gender-biased term “Responsibilities:” excluded to avoid distortion.

Gender Coding of real Job Descriptions



Top 10 Gender-Coded Words in GPT Job Descriptions

Word	Masculine	Feminine
interpersonal,	0	1124
analytical,	499	0
decisions,	416	0
understand	0	349
interpersonal	0	284
competitor,	272	0
leadership	261	0
lead,	246	0
analytics,	232	0
principle	230	0